Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

October 10, 2016

US Army Corps of Engineers
Regulatory Field Office
2407 West 5th Street
Washington, NC 27889

Attention: Thomas Steffens
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide 14, Section 401 Water Quality Certification, and Tar-Pamlico Riparian Buffer Authorization** for the construction of US 301 Bypass Improvements between NC 43/48 (Benvenue Road) to SR 1836 (May Drive) in Nash County. TIP No. U-3330. Debit $570 from WBS 36596.1.2.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to widen the US 301 Bypass in Rocky Mount from Benvenue Road to May Drive in Nash County, NC.

The purpose of this letter is to request approval for a Section 404 Nationwide Permit No. 14, Section 401 Water Quality Certification, and Riparian Buffer Authorization. In addition to this cover letter, this application package includes the following for U-3330: stormwater management plan, permit drawings, utility drawings, roadway plans, DMS acceptance letter and 4B/4C merger meeting minutes.

The Final Environmental Assessment (EA) and the Finding of No Significant Impact (FONSI) were approved in April 30, 2009 and January 8, 2013 respectively. A Right-of-Way Consultation was completed in October, 2014. A request for a Jurisdictional Determination for the wetland delineation was submitted to the U.S. Army Corps of Engineers (USACE) on November 6, 2014, although no verification has been received. Updated information about the wetlands and streams can be found in the Jurisdictional Determination request (2014) which includes figures showing the jurisdictional features within the project area. Copies of the EA and FONSI are available at the following website under the Environmental Documents link:
https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx

Construction of U-3330 is scheduled to begin after project letting on May 16, 2017.

Impacts to Jurisdictional Resources

Impacts to jurisdictional wetlands and surface waters for U-3330 are summarized below in Tables 1 and 2 respectively. Proposed permanent impacts to jurisdictional areas total 0.14 acre of

permanent wetland impacts and 120 linear feet of permanent stream impacts. There will also be impacts to Tar-Pamlico River Riparian Buffers totaling 17,875 sq. ft. in Zone 1 and 9,620 sq. ft. in Zone 2. Please note that a small part of wetland Site 2 (0.02 acre) along the Y-line was inadvertently omitted from the JD request, although the consultant's records show the area as wetland. We have included these impacts in the attached permit drawings.

Table 1. U-3330 Wetland Impacts

Permit Drawing Site Number	JD Request Label (2014)	Type	Permanent Impacts (ac.)	Temporary Impacts (ac.)	Mitigation Required
1	WA	Riparian	<0.01	0.03	Yes
2	WY	Riparian	0.09		Yes
3	WLBA	Riparian	0.01		Yes
4	WGA	Riparian	0.04		Yes
		Total:	**0.14**	**0.03**	

Table 2. U-3330 Surface Water Impacts

Permit Drawing Site Number	JD Request Label (2014)	Permanent (lf)	Temporary (lf)	Permanent (ac.)	Temporary (ac.)	Mitigation Required
4	Goose Branch	120	143	0.0	0.05	No
5	Stoney Creek		132		0.13	No
	Total:	**120**	**275**	**0.0**	**0.18**	**No**

Regulatory Approvals

Section 404: Application is hereby made for a USACE Nationwide 14 Permit as required for the above-described activities.

Section 401: We are requesting a Section 401 Water Quality Certification from NCDWR. We are providing this application to NCDWR for their approval. Authorization to debit the $570 Permit Application Fee from WBS Element 36596.1.2 is hereby given.

Tar-Pamlico River Riparian Buffer Authorization: We are requesting a Tar-Pamlico Riparian Buffer Authorization from the NCDWR.

A copy of this permit application and its distribution list will be posted on the NCDOT Website at https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx, under Quick Links > Permit Applications.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Gordon Cashin at or (919) 707-6107.

Sincerely,

Philip S. Harris III, P.E., CPM, Manager
Natural Environment Section

cc: NCDOT Permit Application Standard Distribution List

Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.4 January 2009

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit ☐ Section 10 Permit	
1b. Specify Nationwide Permit (NWP) number: 14	or General Permit (GP) number:	
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes ☒ No	
1d. Type(s) of approval sought from the DWQ (check all that apply): ☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit ☐ 401 Water Quality Certification – Express ☒ Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No	For the record only for Corps Permit: ☐ Yes ☒ No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	☒ Yes ☐ No	
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☐ Yes ☒ No	
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☐ Yes ☒ No	

2. Project Information

2a. Name of project:	US 301 Bypass Improvements
2b. County:	Nash
2c. Nearest municipality / town:	Rocky Mount
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	U-3330

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Party (for LLC if applicable):	*not applicable*
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6107
3g. Fax no.:	(919) 212-5785
3h. Email address:	gcashin@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	*not applicable*
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	*not applicable*
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	*not applicable*
1b. Site coordinates (in decimal degrees):	Latitude: 35.961741 (DD.DDDDDD) Longitude: - 77.820641 (-DD.DDDDDD)
1c. Property size:	195 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Goose Branch, Stony Creek
2b. Water Quality Classification of nearest receiving water:	C, NSW
2c. River basin:	Tar Pamlico
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: The study area includes the existing roadway for US 301 and surrounding urban development.	
3b. List the total estimated acreage of all existing wetlands on the property: 1.48 acres (from Table 2 of the 11/6/2014 JD Request)	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 981 feet (from Table 1 of the 11/6/2014 JD Request)	
3d. Explain the purpose of the proposed project: To improve traffic conditions on US 301 Byapss.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves improving the existing roadway of US 301 Bypass. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: JD requested on 11/6/2014	☒ Yes ☐ No ☐ Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☐ Preliminary ☐ Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Carolina Ecosystems Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes ☒ No ☐ Unknown
5b. If yes, explain in detail according to “help file” instructions.	
6. Future Project Plans	
6a. Is this a phased project?	☐ Yes ☒ No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

☒ Wetlands ☒ Streams - tributaries ☒ Buffers

☒ Open Waters ☐ Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction	2f. Area of impact (acres)
Site 1 ☒ P ☒ T	Fill	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. <0.01 Temp. 0.03
Site 2 ☒ P ☐ T	Fill	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.09
Site 3 ☒ P ☐ T	Fill	Disturbed	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.01
Site 4 ☒ P ☐ T	Culvert bank stabilization	Bottomland Hardwood Fores	☒ Yes ☐ No	☒ Corps ☒ DWQ	Perm. 0.04
Site 5 ☐ P ☐ T		Choose One	☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 6 ☐ P ☐ T		Choose One	☐ Yes ☐ No	☐ Corps ☐ DWQ	
				2g. **Total wetland impacts**	0.14 ac Permanent 0.03 ac Temporary

2h. Comments: There will be 0.15 ac of hand clearing. Additionally there will be 0.05 ac of temporary fill in wetlands in the hand clearing areas for erosion control measures. See Wetland Permit Impact Summary sheet for details

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☒ P ☒ T	Culvert/Bank Stabilization	Goose Branch	☒ PER ☐ INT	☒ Corps ☒ DWQ	15	120 perm. 143 temp.
Site 5 ☐ P ☒ T	Temp. Fill	Stoney Creek	☒ PER ☐ INT	☒ Corps ☒ DWQ	60	132 temp
					3h. **Total stream and tributary impacts**	120 Perm 275 Temp

3i. Comments:

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☒ T	Goose Branch	Culvert bank stabilization		0.05
			4f. Total open water impacts	0.05 Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
	5f. Total							

5g. Comments:	
5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

6a. Project is in which protected basin?			☐ Neuse ☐ Catawba	☒ Tar-Pamlico ☐ Randleman	☐ Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 ☒ P ☐ T	Roadway Construction	Stoney Creek	☐ Yes ☒ No	7,206	3,942
B4 ☒ P ☐ T	Roadway Construction	Goose Branch	☐ Yes ☒ No	8,303	3,526
U1 ☐ P ☒ T	Utilities	Stoney Creek	☐ Yes ☒ No	1,682	261
U2 ☐ P ☒ T	Utilities	Goose Branch	☐ Yes ☒ No	684	1,891
			6h. **Total buffer impacts**	17,875	9,620

6i. Comments: *See Utility Buffer Impact Summary sheet for details.

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. Wetland impacts were reduced through design modifications.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Best Management Practices for Construction and Maintenance Activities will be used.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	☒ Yes ☐ No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☒ Corps	
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☒ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	☒ Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	0.28 acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				☐ Yes ☒ No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
	6f. **Total buffer mitigation required:**			
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	☒ Yes ☐ No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments: See attached buffer permit drawings.	☒ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HQW ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No N/A
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☐ Yes ☐ No N/A
5b. Have all of the 401 Unit submittal requirements been met?	☐ Yes ☐ No N/A

F. Supplementary Information	
1. Environmental Documentation (DWQ Requirement)	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	☒ Yes ☐ No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	☒ Yes ☐ No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	☒ Yes ☐ No
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	☐ Yes ☒ No
2b. Is this an after-the-fact permit application?	☐ Yes ☒ No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
3. Cumulative Impacts (DWQ Requirement)	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	☐ Yes ☒ No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this improvement and existing urban development, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.	
4. Sewage Disposal (DWQ Requirement)	
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable	

5. Endangered Species and Designated Critical Habitat (Corps Requirement)	
5a. Will this project occur in or near an area with federally protected species or habitat?	☐ Yes ☒ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☒ Yes ☐ No
5c. If yes, indicate the USFWS Field Office you have contacted.	☒ Raleigh ☐ Asheville
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS website, field surveys. All species No Effect.	
6. Essential Fish Habitat (Corps Requirement)	
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes ☒ No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index	
7. Historic or Prehistoric Cultural Resources (Corps Requirement)	
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	☐ Yes ☒ No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation	
8. Flood Zone Designation (Corps Requirement)	
8a. Will this project occur in a FEMA-designated 100-year floodplain?	☒ Yes ☐ No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA	
8c. What source(s) did you use to make the floodplain determination? FEMA Maps	

Philip S. Harris III, P.E. Applicant/Agent's Printed Name	_____ Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	_____ Date

Subject: Draft Meeting Minutes from 4B Preliminary Drainage Design Review
May 8, 2014 for U-3330 in Nash County

Team Members:

Tom Steffens-USACE	(present)
Gary Jordan-USFWS	(present)
Travis Wilson-NCWRC	(present-via phone)
Ron Lucas -FHWA	(present)
Cynthia Van Der Wilde-EPA	(present)
Rob Ridings -NCDWR	(present)

Participants:

Bill Zerman, NCDOT Hydraulics
Vincent Rivers, NCDOT Hydraulics
Dan Duffield, Mulkey E & C
Christopher Dustin, Mulkey E & C
Tim Coggins, NCDOT Structures Design
Andy Young, NCDOT Roadway Design
Jillian Hinson, NCDOT Roadway Design
Mark Staley, NCDOT REU
Ted Devens – NCDOT PDEA
Wendi Johnson – Division 4
Emily Murray-NCDOT Structures Design
Chris Rivenbark-NES

Introductions were initiated by Bill Zerman. Introductions were made by all in attendance. Dan Duffield proceeded with the review.

General

- The JD expired in 2011
- The division has concerns with preformed scour holes and would prefer rock splash pads if they serve the same purpose and diffuse the flow as a preformed scour hole.
- Make sure flow is dissipated before entering the buffer zones when using rock splash pads.
- Need to use bank stabilization where ditches are entering the streams.
- When using ditches for grass swale criteria, ditches must have 3:1 side slopes.

Plan Sheet 4

The stream located at station 27+00 –L- Rt (downstream portion) and at station 29+50 – L- Lt (upstream portion) was not called as JD but will be reviewed for consideration during the re-verification process.

Plan Sheet 6 – The bridge crossing

- Concerns over removing the concrete slope protection and leaving the ground bare and unstable. The division would prefer it be covered with something like Class II riprap because of the height of Stoney Creek.

- When impacting the JS stream in-between the road and BoJangles make sure you account for impacts associated with construction installation.

Plan Sheet 7 – 42" Pipe outfall and large wetlands

- Make sure that impacts are accounted for when going outside control of access with regards to easements.
- Change the PSH to rock slash pad due to the inaccessible location of outlet of pipe. This is for shoulder berm gutter outlet, behind the guardrail.

Plan Sheet 10 – Box Culvert and cross pipe on Y line

- Make sure ditches have stream bank stabilization when entering streams.
- Change the PSH to a rock splash pad as the contours don't look flat in this area. Check to make sure the velocities are diffused before entering the buffers.

Questions?

- Ted Devens would like preliminary impact numbers to compare with the FONSI

Some folks could not access the redline drainage; it could be that the name of the file had a "%" in the file name. The file has been renamed so it can be accessed.

Meeting Adjourned.

Mitigation Services
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

September 22, 2016

Mr. Philip S. Harris, III, P.E., CPM
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: Mitigation Acceptance Letter:

U-3330, US 301 Business from NC 43 / 48 (Benvenue Road) to SR 1836 (May Drive), Nash County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the compensatory wetland mitigation for the subject project. Based on the information supplied by you on September 22, 2016, the impacts are located in CU 03020101 of the Tar-Pamlico River basin in the Northern Inner Coastal Plain (NICP) Eco-Region, and are as follows:

Tar-Pamlico 03020101 NICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0.14	0	0	0	0

*Some of the stream and/or wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

DMS commits to implementing sufficient compensatory wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

If you have any questions or need additional information, please contact Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill
Credit Management Supervisor

cc: Mr. Tom Steffens, USACE – Washington Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: U-3330

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.06; Released June 2016)

WBS Element:	36596.3.FR1	TIP No.:	U-3330	County(ies):	Nash	Page	1	of	2

General Project Information

WBS Element:	36596.3.FR1	**TIP Number:**	U-3330	**Project Type:**	Roadway Widening	**Date:**	8/19/2016
NCDOT Contact:	Vincent Rivers	**Contractor / Designer:**	CALYX Engineers and Consultants / David P. Bocker, PE				
Address:	1020 Birch Ridge Drive Raleigh, NC 27610-150	**Address:**	7500 East Independence Blvd. Suite 100 Charlotte, NC 28227				
Phone:	919-707-6748	**Phone:**	704-566-4342				
Email:	vnrivers@ncdot.gov	**Email:**	dbocker@CALYXengineers.com				
City/Town:	Rocky Mount	**County(ies):**	Nash				
River Basin(s):	Tar-Pamlico	**CAMA County?**	No				
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	2.044 Miles	**Surrounding Land Use:**	Commercail / Business

	Proposed Project	Existing Site
Project Built-Upon Area (ac.)	29.8 ac.	27.2 ac.
Typical Cross Section Description:	6-lane Divided Highway with Grass median and Intersection Improvements throughout the project corridor (3 @ 12' lanes in each direction)	Existing 4-lane Divided Highway with Grass median (2 @ 12' lanes in each direction)
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 47100 Year: 2036	Existing: 38580 Year: 2016

General Project Narrative: (Description of Minimization of Water Quality Impacts)

The project consists of roadway widening along US 301, bridge replacement of Bridge #630173 & #630175 over Stony Creek and culvert extension at Goose Branch in Nash County. The proposed stormwater runoff from the proposed bridge is conveyed to storm draiange systems that outlet outside of the buffers and then outlet to riprap splash pads. The Division has requested the use of riprap splash pads instead of PSH to provide diffused flow and treatment of stormwater. It should also be noted that there are no deck drains and thus no direct discharge into the creek.

Waterbody Information

Surface Water Body (1):	Stony Creek	**NCDWR Stream Index No.:**	28-68
NCDWR Surface Water Classification for Water Body	**Primary Classification:**	Class C	
	Supplemental Classification:	Nutrient Sensitive Waters (NSW)	
Other Stream Classification:			
Impairments:			
Aquatic T&E Species?	No	Comments:	
NRTR Stream ID:		**Buffer Rules in Effect:**	Tar-Pamlico
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	No
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)			

Dissipator Pads Provided in Buffer?	N/A	(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	

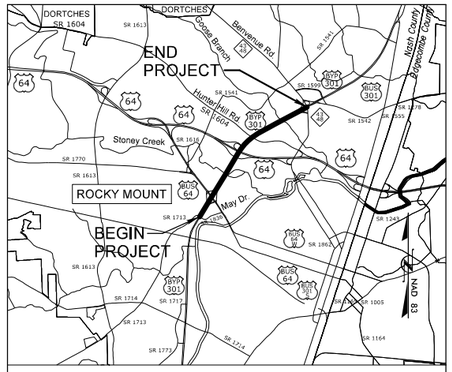
WBS Element:	36596.3.FR1	**TIP No.:**	U-3330	**County(ies):**	Nash		**Page**	2 of 2
Additional Waterbody Information								
Surface Water Body (2):	Goose Branch			**NCDWR Stream Index No.:**	28-70			
NCDWR Surface Water Classification for Water Body			**Primary Classification:**	Class C				
			Supplemental Classification:	(NSW)				
Other Stream Classification:								
Impairments:								
Aquatic T&E Species?	Comments:							
NRTR Stream ID:					**Buffer Rules in Effect:**	Tar-Pamlico		
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A		**Dissipator Pads Provided in Buffer?**	N/A		
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)								

09/08/99

TIP PROJECT: U-3330

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3330	1	

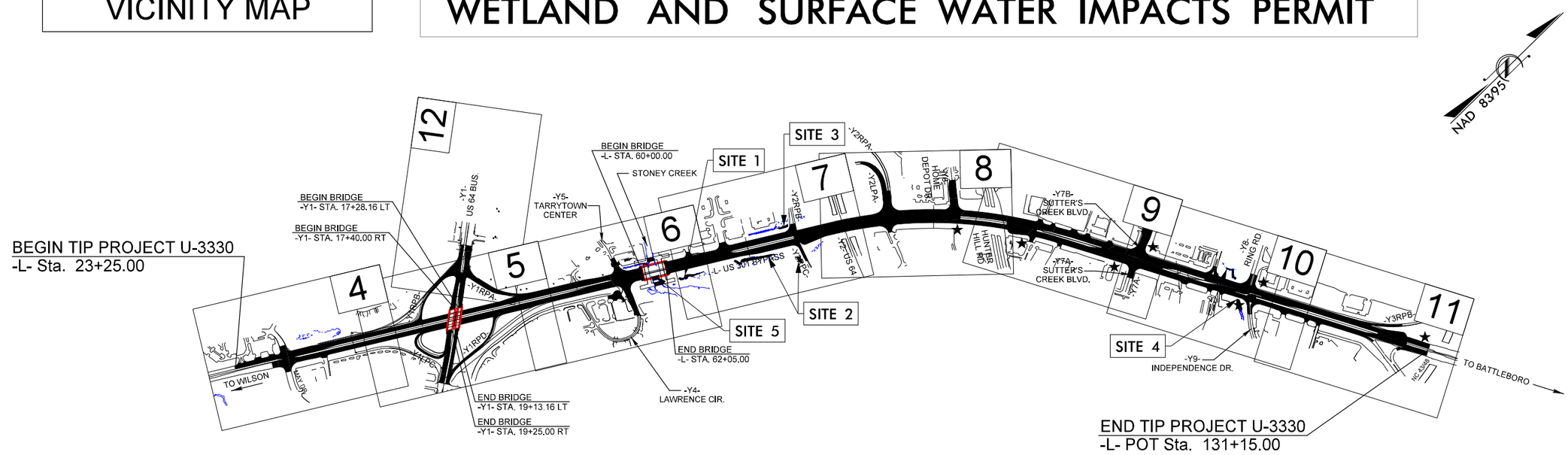
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
36596.1.2	STP – 0301 (28)	PE
36596.2.1		R/W
36596.2.U1		UTIL.

PERMIT DRAWING
SHEET 1 OF 25

LOCATION: ROCKY MOUNT – US 301 BYPASS FROM SR 1836 (MAY DRIVE) TO NC 43–48 (BENVENUE ROAD) INTERCHANGE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, AND CULVERT

WETLAND AND SURFACE WATER IMPACTS PERMIT



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF ROCKY MOUNT.

★ TRAFFIC SIGNAL

DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS FOR –Y1LPC–

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 38,580
ADT 2036 = 47,100
K = 10%
D = 55%
T = 4%*
V = 50 mph

*TTST 2% DUAL 2%
FUNCTIONAL CLASS.:URBAN ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U–3330	2.005 Miles
LENGTH STRUCTURE TIP PROJECT U–3330	0.039 Mile
TOTAL LENGTH TIP PROJECT U–3330	2.044 Miles

Prepared in the Office of:
CALYX ENGINEERS + CONSULTANTS NC License # F-1333
FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 21, 2014

LETTING DATE:
NOVEMBER 15, 2016

NCDOT CONTACT:

Steve A. Drum, P.E.
PROJECT ENGINEER

Michael A. Holt, P.E.
PROJECT DESIGN ENGINEER

Brenda Moore, P.E., CPM
PROJECT ENGINEER – ROADWAY DESIGN

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

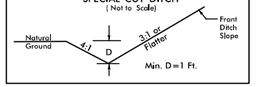
DRAINAGE DITCH DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-3330	2D-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

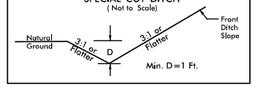
PERMIT DRAWING
SHEET 2 OF 25

DETAIL 4-1
SPECIAL CUT DITCH
(Not to Scale)



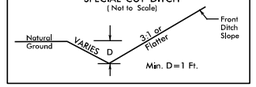
-L- STA. 29+00 TO STA. 30+50 LT

DETAIL 4-2
SPECIAL CUT DITCH
(Not to Scale)



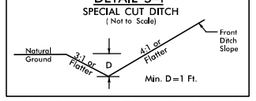
-L- STA. 32+00 TO STA. 39+00 RT

DETAIL 4-3
SPECIAL CUT DITCH
(Not to Scale)



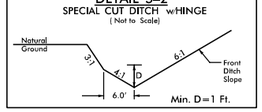
-L- FROM STA. 36+00 TO STA. 39+00 LT

DETAIL 5-1
SPECIAL CUT DITCH
(Not to Scale)



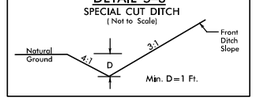
-Y1RPB- STA. 14+50 LT TO -L- STA. 39+00 LT
-Y1RPB- STA. 15+00 RT TO -L- STA. 41+00 LT

DETAIL 5-2
SPECIAL CUT DITCH wHINGE
(Not to Scale)



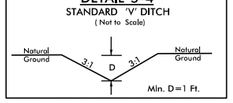
-L- STA. 50+00 TO STA. 51+00 LT
-Y1LPC- STA. 10+45 LT TO -L- STA. 41+50 RT

DETAIL 5-3
SPECIAL CUT DITCH
(Not to Scale)



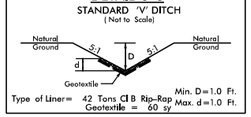
-Y1RPA- STA. 16+00 TO STA. 16+50 RT
-Y1RPD- STA. 10+81 TO STA. 16+00 LT

DETAIL 5-4
STANDARD 'V' DITCH
(Not to Scale)



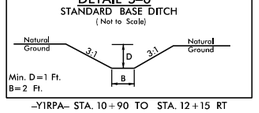
-Y1RPA- STA. 13+00 TO STA. 16+00 RT

DETAIL 5-5
STANDARD 'V' DITCH
(Not to Scale)



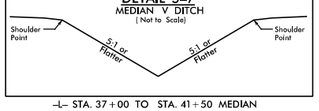
-Y1RPD- STA. 15+00 TO STA. 15+50 RT

DETAIL 5-6
STANDARD BASE DITCH
(Not to Scale)



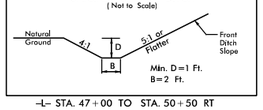
-Y1RPA- STA. 10+90 TO STA. 12+15 RT

DETAIL 5-7
MEDIAN V DITCH
(Not to Scale)



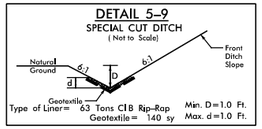
-L- STA. 37+00 TO STA. 41+50 MEDIAN

DETAIL 5-8
SPECIAL CUT BASE DITCH
(Not to Scale)



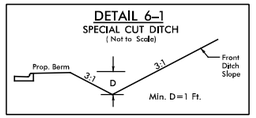
-L- STA. 47+00 TO STA. 50+50 RT

DETAIL 5-9
SPECIAL CUT DITCH
(Not to Scale)



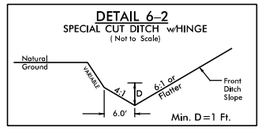
-Y1LPC- STA. 13+00 TO STA. 14+00 RT

DETAIL 6-1
SPECIAL CUT DITCH
(Not to Scale)



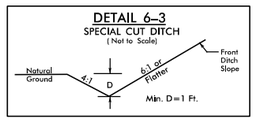
-L- STA. 58+50 TO STA. 58+88 LT

DETAIL 6-2
SPECIAL CUT DITCH wHINGE
(Not to Scale)



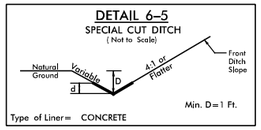
-L- STA. 51+00 TO STA. 52+50 LT

DETAIL 6-3
SPECIAL CUT DITCH
(Not to Scale)



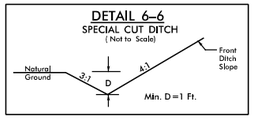
-L- STA. 52+50 TO STA. 53+00 LT

DETAIL 6-5
SPECIAL CUT DITCH
(Not to Scale)



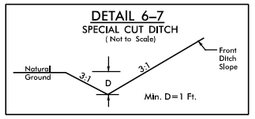
-L- STA. 51+00 TO STA. 57+00 RT

DETAIL 6-6
SPECIAL CUT DITCH
(Not to Scale)



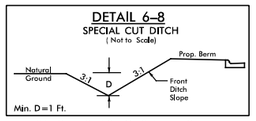
-L- STA. 55+00 TO STA. 57+00 LT

DETAIL 6-7
SPECIAL CUT DITCH
(Not to Scale)



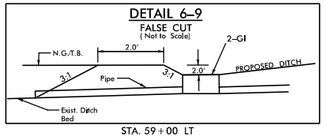
-L- STA. 59+01 TO STA. 59+95 RT

DETAIL 6-8
SPECIAL CUT DITCH
(Not to Scale)



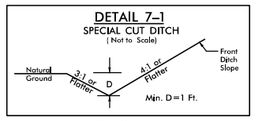
-Y4- STA. 12+50 TO STA. 11+13 LT

DETAIL 6-9
FALSE CUT
(Not to Scale)



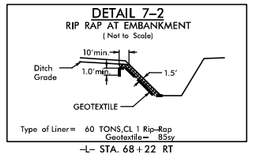
STA. 59+00 LT

DETAIL 7-1
SPECIAL CUT DITCH
(Not to Scale)



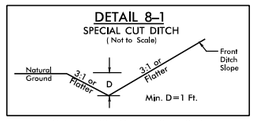
-L- STA. 66+00 TO STA. 66+50 LT

DETAIL 7-2
RIP RAP AT EMBANKMENT
(Not to Scale)



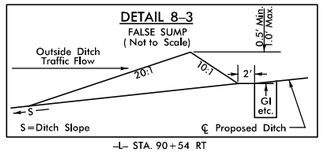
-L- STA. 68+22 RT

DETAIL 8-1
SPECIAL CUT DITCH
(Not to Scale)



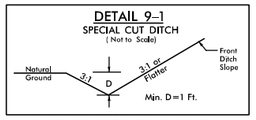
-L- STA. 81+00 TO STA. 81+50 RT

DETAIL 8-3
FALSE SUMP
(Not to Scale)



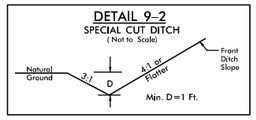
-L- STA. 90+54 RT

DETAIL 9-1
SPECIAL CUT DITCH
(Not to Scale)



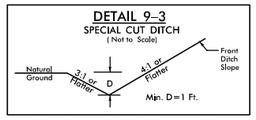
-L- STA. 97+00 TO STA. 98+00 LT
-L- STA. 95+50 TO STA. 97+00 RT
-L- STA. 98+00 TO STA. 99+50 RT
-L- STA. 103+00 TO STA. 103+50 RT
-L- STA. 105+00 TO STA. 105+50 RT

DETAIL 9-2
SPECIAL CUT DITCH
(Not to Scale)



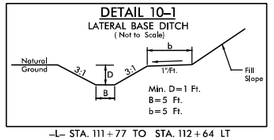
-Y7B- STA. 12+00 TO STA. 12+50 LT

DETAIL 9-3
SPECIAL CUT DITCH
(Not to Scale)



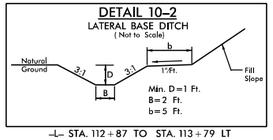
-Y7A- STA. 11+00 TO STA. 11+50 RT

DETAIL 10-1
LATERAL BASE DITCH
(Not to Scale)



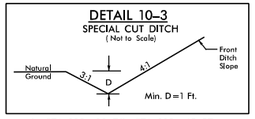
-L- STA. 111+77 TO STA. 112+64 LT

DETAIL 10-2
LATERAL BASE DITCH
(Not to Scale)



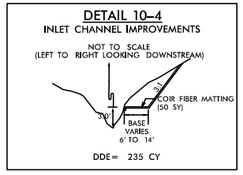
-L- STA. 112+87 TO STA. 113+79 LT

DETAIL 10-3
SPECIAL CUT DITCH
(Not to Scale)

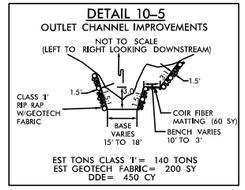


-L- STA. 108+00 TO STA. 108+45 RT

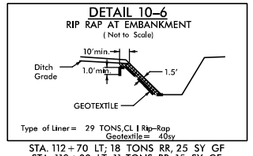
DETAIL 10-4
INLET CHANNEL IMPROVEMENTS



DETAIL 10-5
OUTLET CHANNEL IMPROVEMENTS

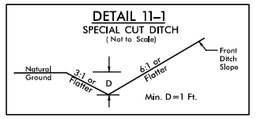


DETAIL 10-6
RIP RAP AT EMBANKMENT
(Not to Scale)



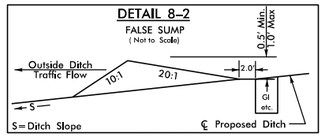
STA. 112+70 LT; 18 TONS RR, 25 SY GF
STA. 113+00 LT; 11 TONS RR, 15 SY GF

DETAIL 11-1
SPECIAL CUT DITCH
(Not to Scale)



-Y3RPB- STA. 10+00 TO STA. 11+50 LT

DETAIL 8-2
FALSE SUMP
(Not to Scale)



-L- STA. 85+98 LT

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CHARLOTTE, NC 28227
phone: 704.537.7300
CALYXengineers.com
NC License # F-1333

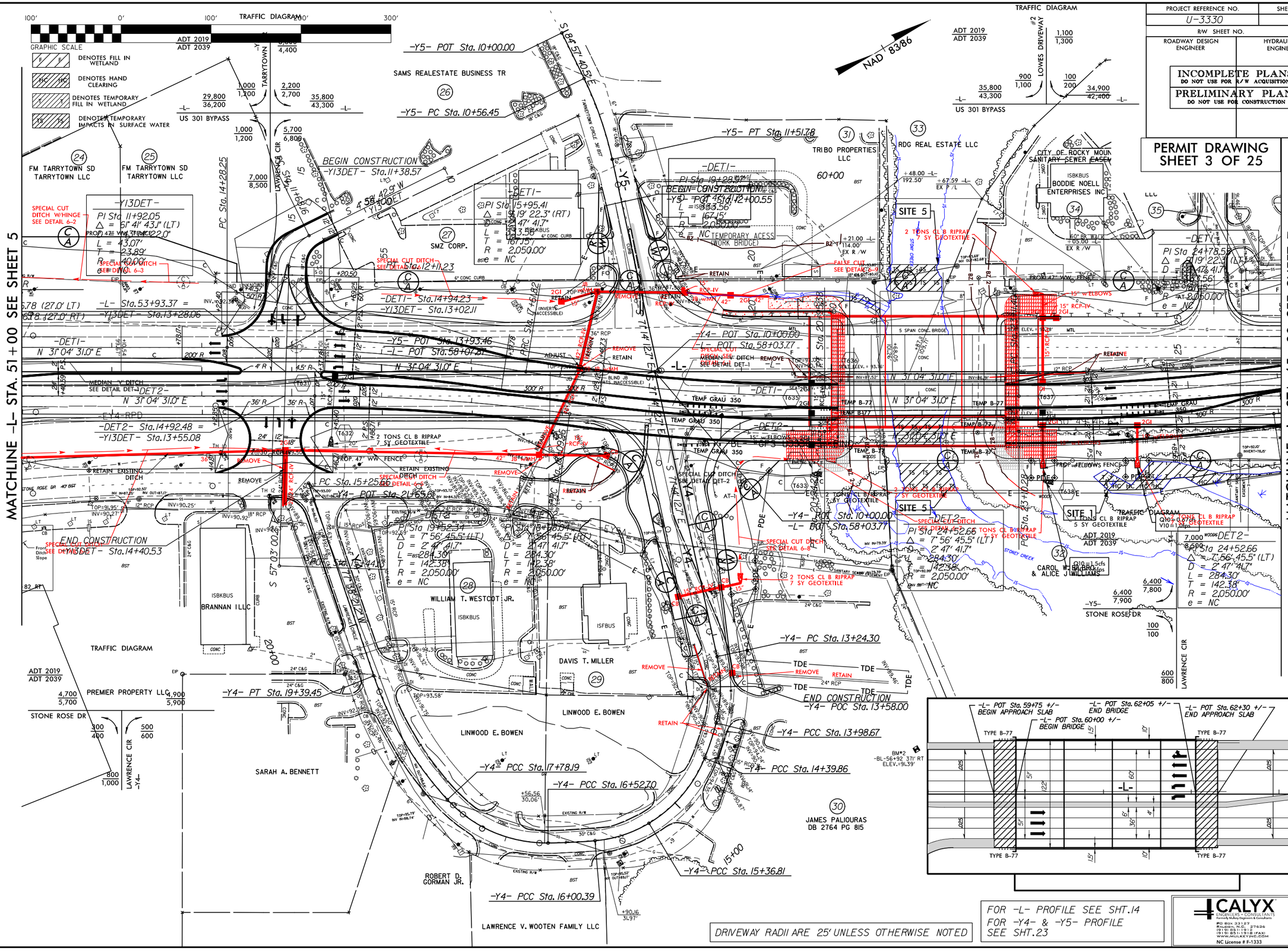
8/17/99
10/6/2016
H:\Projects\PERMITS_Environmental\Drawings\U3330_RDY_PSH_Ditch_Details.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 3 OF 25



DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.14
FOR -Y4- & -Y5- PROFILE
SEE SHT.23

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Raleigh, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MALLOYINC.COM
NC License # F-1333

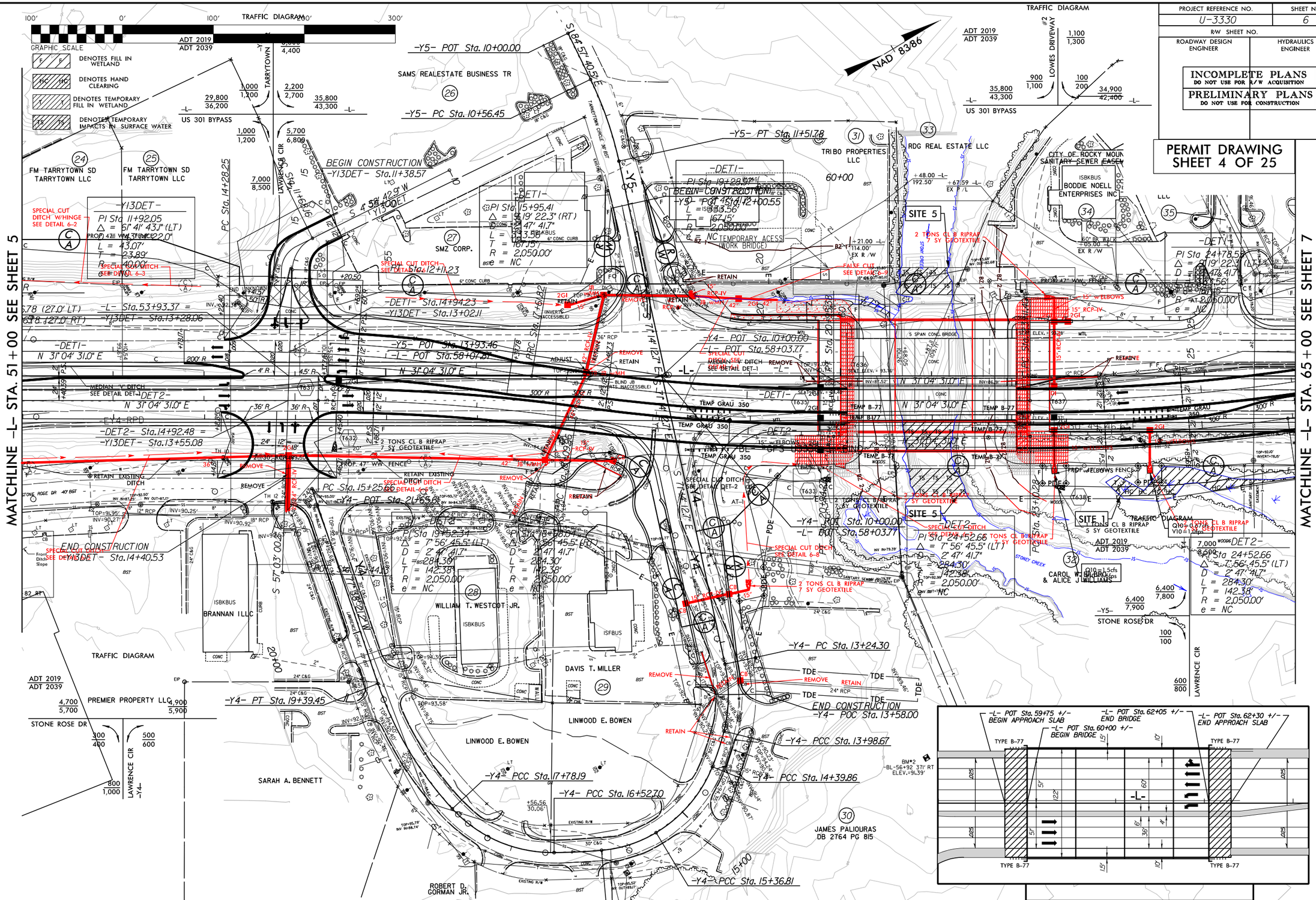
SYSTEM ENGINEER
USER NAME

PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 4 OF 25



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(919) 851-1918 (FAX)
WWW.MCKIMCREASMAN.COM
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PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 5 OF 25

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING

T T DENOTES TEMPORARY FILL IN WETLAND

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHIC SCALE 50' 0' 50' 100' 150'

TRIBO PROPERTIES

RDG REAL ESTATE LLC

CITY OF ROCKY MOUNT SANITARY SEWER EASEMENT DB 1278 PG 967

ISBKBUS BODDIE NOELL ENTERPRISES INC DB 2341 PG 500 (34)

ARCLWRMTNCOOI, LLC DB 2693 PG 640 (35)

SITE 5

2 TONS CL B RIPRAP
7 SY GEOTEXTILE

FALSE CUT
SEE DETAIL 6-9

RETAIN

PROP. 47" WW FENCE

15" RCP-IV

15" w/ELBOWS

15" RCP-IV 2GI

RETAINING WALL #1

5 SPAN CONC. BRIDGE

SEAT ELEV. = 93.28'

PROP. SBG

SPECIAL CUT DITCH
SEE DETAIL DET-1

MEDIAN DITCH REMOVE

TEMP GRAU 350

TEMP B-77

PROP. 5 MONO. ISLAND

200' LEFT TURN TAPER

PROP. 47" WW FENCE

SITE 5

2 TONS CL B RIPRAP
7 SY GEOTEXTILE

SPECIAL CUT DITCH
SEE DETAIL 6-7

SITE 1

1 TONS CL B RIPRAP
5 SY GEOTEXTILE

Q10 = 0.67 cfs
V10 = 1.0fps

Q10 = 1.5cfs
V10 = 1.6fps

SPECIAL CUT DITCH
SEE DETAIL 6-8

2 TONS CL B RIPRAP
7 SY GEOTEXTILE

CAROL W. BULLOCK & ALICE J WILLIAMS DB 2693 PG 316 (32)

STONEY CREEK

SANITARY SEWER EASEMENT

TIE TO EXIST. C&G

PI Sta 24+52.66
Δ = 7° 56' 45.5" (LT)
D = 2° 47' 41.7"
L = 284.30'
T = 142.38'
R = 2,050.00'

ENLARGEMENT SHEET

FOR -L- PROFILE SEE SHT.15
FOR -Y4- & -Y5- PROFILE SEE SHT.24
SEE SHT.2D-1 FOR DITCH DETAILS
SEE SHT.2B-2 FOR INTERSECTION DETAILS

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PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 6 OF 25

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING

T T DENOTES TEMPORARY FILL IN WETLAND

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 5

2 TONS CL B RIPRAP
7 SY GEOTEXTILE

FALSE CUT
SEE DETAIL 6-9

15" RCP-IV

15" w/ELBOWS

SPECIAL CUT
MEDIAN SEE
SEE DETAIL DET-1

REMOVE

SPECIAL CUT DITCH
SEE DETAIL 6-8

SPECIAL CUT DITCH
SEE DETAIL 6-7

SITE 1

1 TONS CL B RIPRAP
5 SY GEOTEXTILE

Q10 = 0.67cfs
V10 = 1.0fps

Q10 = 1.5cfs
V10 = 1.6fps

CAROL W. WILLIAMS
& ALICE J. WILLIAMS
DB 2693 PG 316

ISBKBUS
BODDIE NOELL
ENTERPRISES INC
DB 2341 PG 500

ARCLWRMTNCOOI,
LLC
DB 2693 PG 640

CITY OF ROCKY MOUNT
SANITARY SEWER EASEMENT
DB 1278 PG 967

TRIBO PROPERTIES
RDG REAL ESTATE LLC

STONEY CREEK

5 SPAN CONC. BRIDGE

RETAINING WALL #1

PROP. 47" WW FENCE

PROP. SBG

PROP. 5' MONO. ISLAND

200' LEFT TURN TAPER

TEMP B-77

TEMP GRAU 350

TIE TO EXIST. C&G

FOR -L- PROFILE SEE SHT.15
FOR -Y4- & -Y5- PROFILE SEE SHT.24
SEE SHT.2D-1 FOR DITCH DETAILS
SEE SHT.2B-2 FOR INTERSECTION DETAILS

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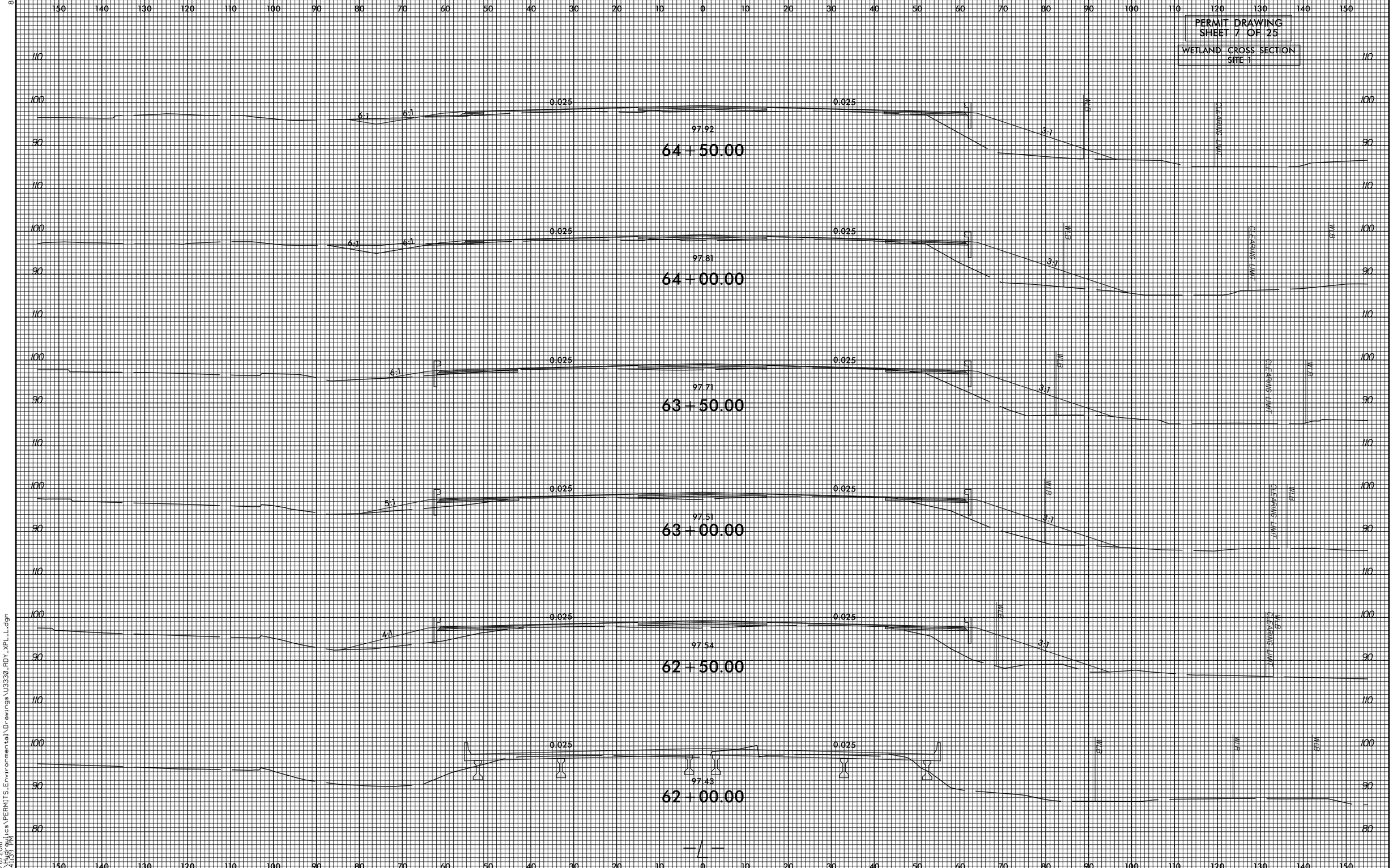
ENLARGEMENT SHEET

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-3330	X-15

PERMIT DRAWING
SHEET 7 OF 25

WETLAND CROSS SECTION
SITE 1



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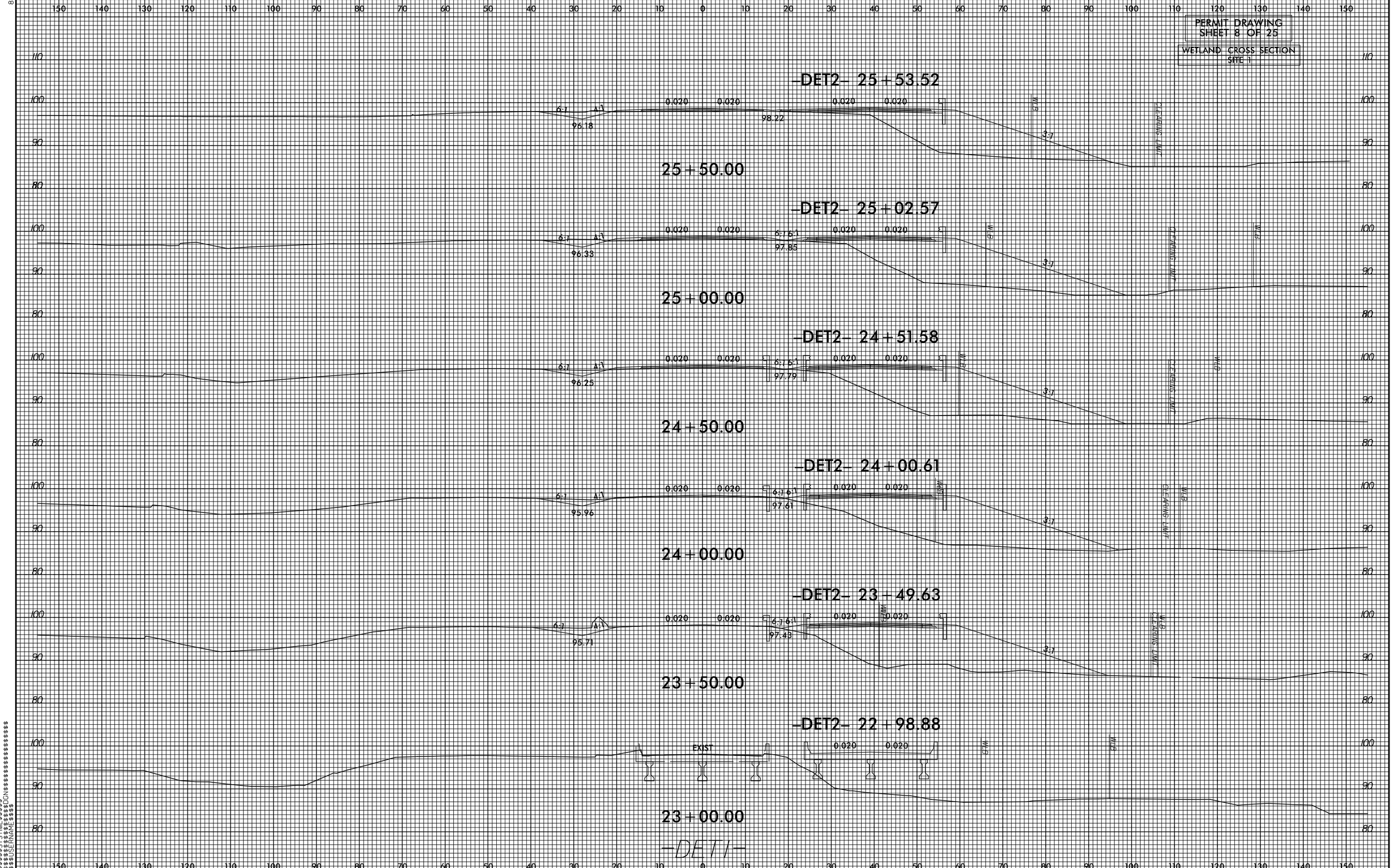
10/6/2016
R:\Hydraulics\PERMITS_Environmental\Drawings\U3330_RDY_XPL_L.dgn
4:41:39 PM

PROJ. REFERENCE NO.	SHEET NO.
U-3330	X-78

PERMIT DRAWING
SHEET 8 OF 25

WETLAND CROSS SECTION
SITE 1



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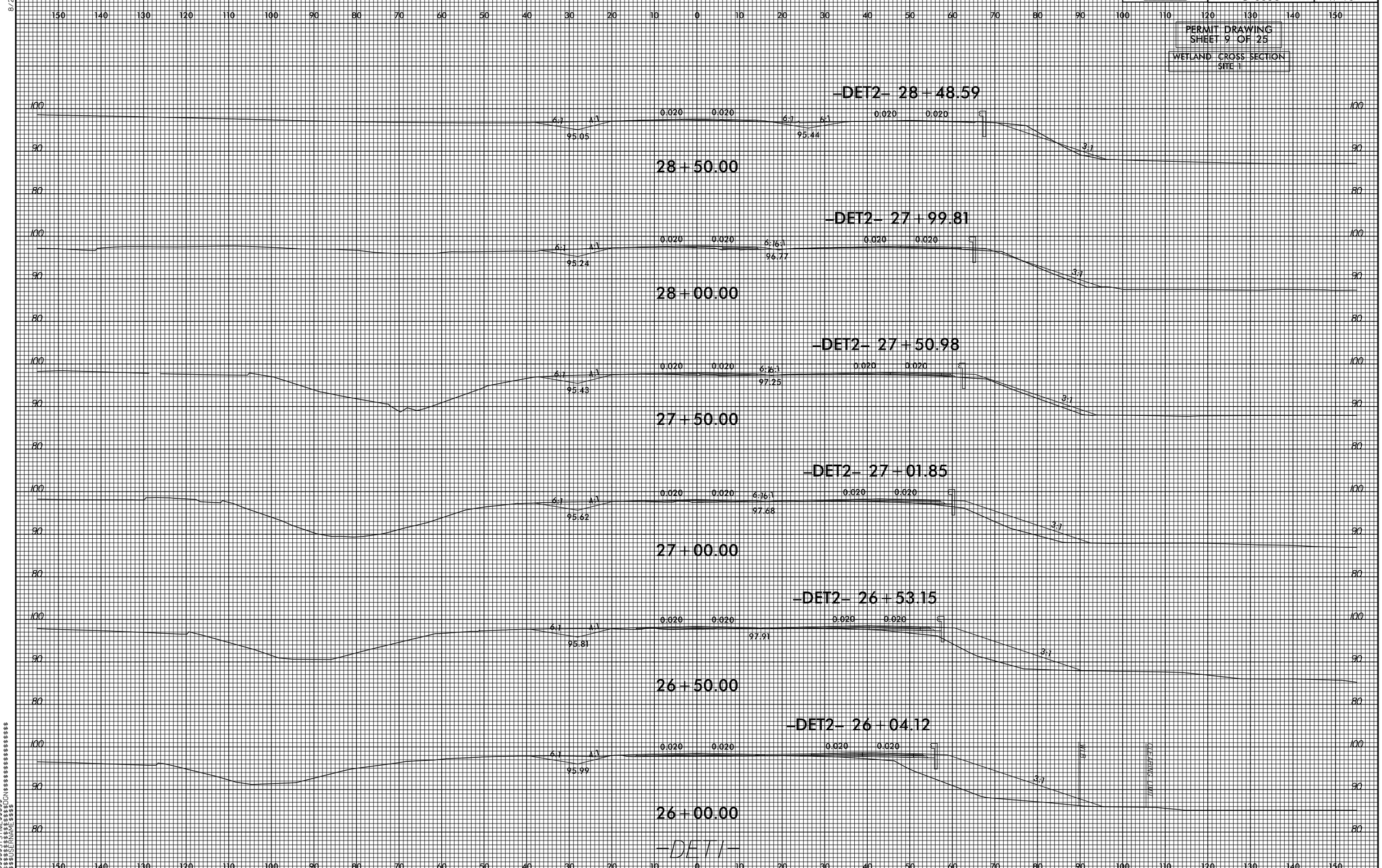
$$$$$$$$SYSTIME$$$$
$$$$$$$$TIME$$$$
$$$$$$$$DGN$$$$
$$$$$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
U-3330	X-79

PERMIT DRAWING
SHEET 9 OF 25

WETLAND CROSS SECTION
SITE 1



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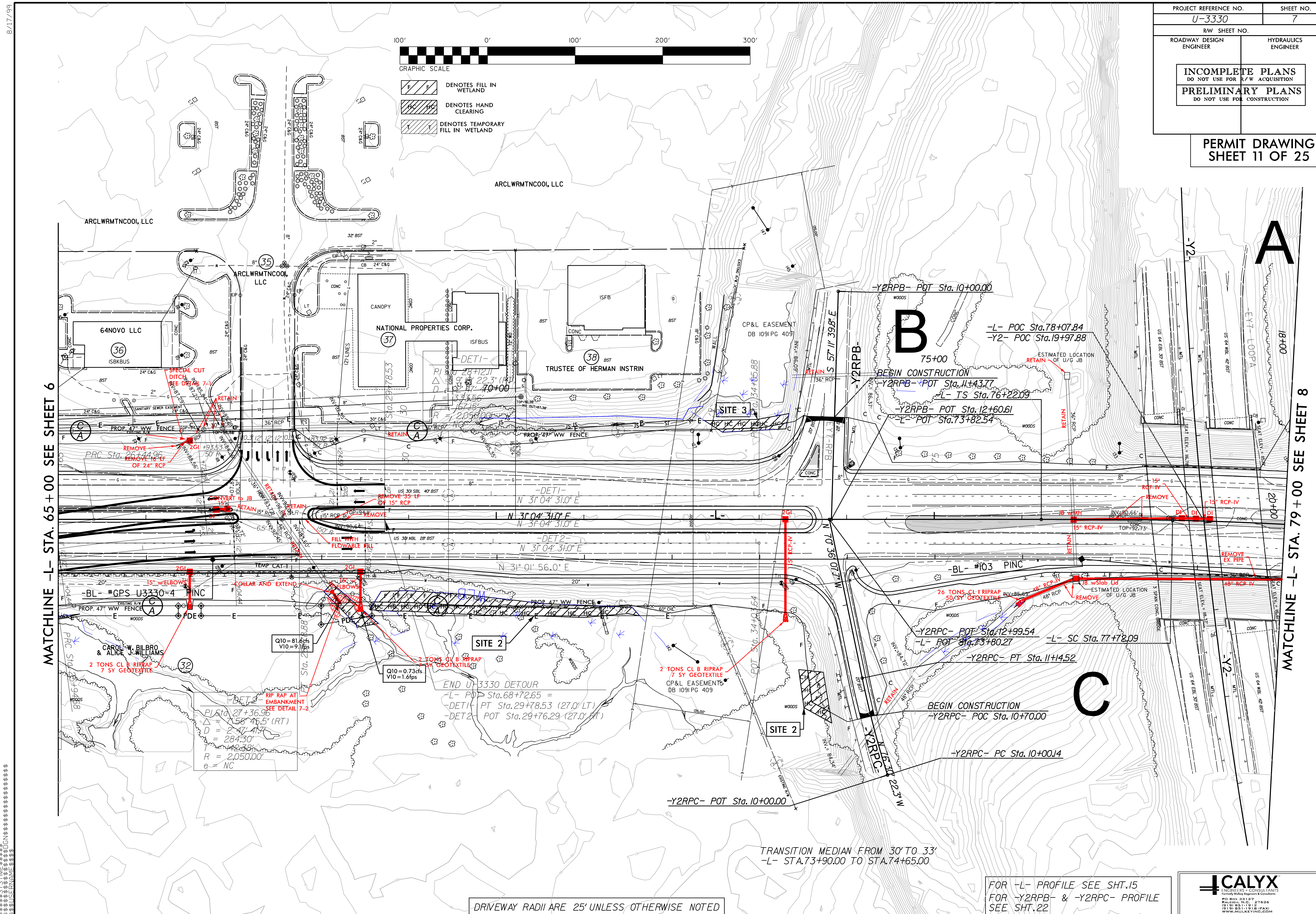
$$$$$$$$SYSTIME$$$$
$$$$$$$$SIZEON$$$$$$$$$$$$$$$$$$$$
$$$$$$$$USERNAME$$$$


PROJECT REFERENCE NO. U-3330
SHEET NO. 7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 11 OF 25
GRAPHIC SCALE
100' 0' 100' 200' 300'
DENOTES FILL IN WETLAND
DENOTES HAND CLEARING
DENOTES TEMPORARY FILL IN WETLAND
ARCLWRMTNCOOI, LLC
64NOVO LLC
ISBKBUS
NATIONAL PROPERTIES CORP.
CANOPY
ISFBUS
TRUSTEE OF HERMAN INSTRIN
ISFB
CP&L EASEMENT
DB 1091PG 409
CAROL W. BILBRO & ALICE J. WILLIAMS
SITE 2
SITE 3
A
B
C
MATCHLINE -L- STA. 65+00 SEE SHEET 6
MATCHLINE -L- STA. 79+00 SEE SHEET 8
SPECIAL CUT DITCH SEE DETAIL 7-1
REMOVE
REMOVE 16 LF OF 24" RCP
RETAIN
CONVERT to JB
REMOVE 35 LF OF 15" RCP
FILL WITH FLOWABLE FILL
COLLAR AND EXTEND
15" w/ELBOWS
2 TONS CL B RIPRAP
7 SY GEOTEXTILE
RIP RAP AT EMBANKMENT SEE DETAIL 7-2
Q10 = 81.6cfs
V10 = 9.1fps
Q10 = 0.73cfs
V10 = 1.6fps
-BL- #GPS U3330-4 PINC
-BL- #103 PINC
PROP. 47" WW FENCE
N 31° 04' 31.0" E
N 31° 01' 56.0" E
-DET1-
-DET2-
PI Sta 28+12.11
PI Sta 27+36.96
Δ = 7° 56' 45.5" (RT)
D = 2° 47' 41.7"
L = 284.30'
T = 142.38'
R = 2,050.00'
e = NC
END U-3330 DETOUR
-L- POT Sta.68+72.65 =
-DET1- PT Sta.29+78.53 (27.0' LT)
-DET2- POT Sta.29+76.29 (27.0' RT)
-Y2RPB- POT Sta. 10+00.00
-L- POC Sta.78+07.84
-Y2- POC Sta.19+97.88
BEGIN CONSTRUCTION
-Y2RPB- POT Sta. 11+43.77
-L- TS Sta.76+22.09
-Y2RPB- POT Sta. 12+60.61
-L- POT Sta.73+82.54
ESTIMATED LOCATION OF U/G JB
JB w/MH
JB w/Slab Lid
15" RCP-IV
48" RCP-IV
REMOVE EX. PIPE
26 TONS CL I RIPRAP
50 SY GEOTEXTILE
-Y2RPC- POT Sta. 12+99.54
-L- POT Sta.73+80.27
-L- SC Sta. 77+72.09
-Y2RPC- PT Sta. 11+14.52
BEGIN CONSTRUCTION
-Y2RPC- POC Sta. 10+70.00
-Y2RPC- PC Sta. 10+00.14
-Y2RPC- POT Sta. 10+00.00
US 64 EBL 30' BST
US 64 WBL 42' BST
3 SPAN CONC. BRIDGE
TRANSITION MEDIAN FROM 30' TO 33'
-L- STA.73+90.00 TO STA.74+65.00
DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED
FOR -L- PROFILE SEE SHT.15
FOR -Y2RPB- & -Y2RPC- PROFILE SEE SHT.22
CALYX ENGINEERS + CONSULTANTS
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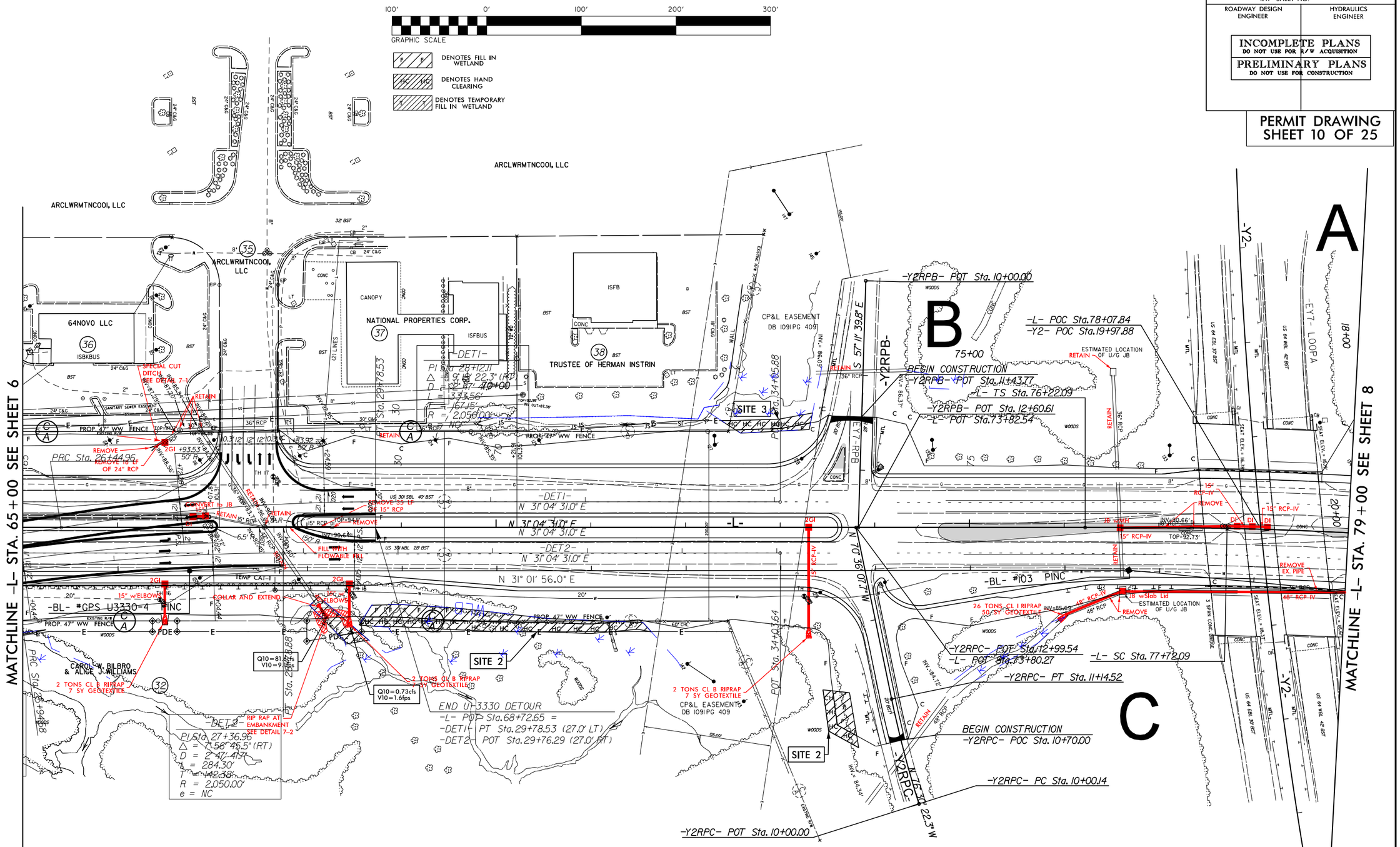
PROJECT REFERENCE NO.	SHEET NO.
U-3330	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 10 OF 25



DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.15
FOR -Y2RPB- & -Y2RPC- PROFILE SEE SHT.22

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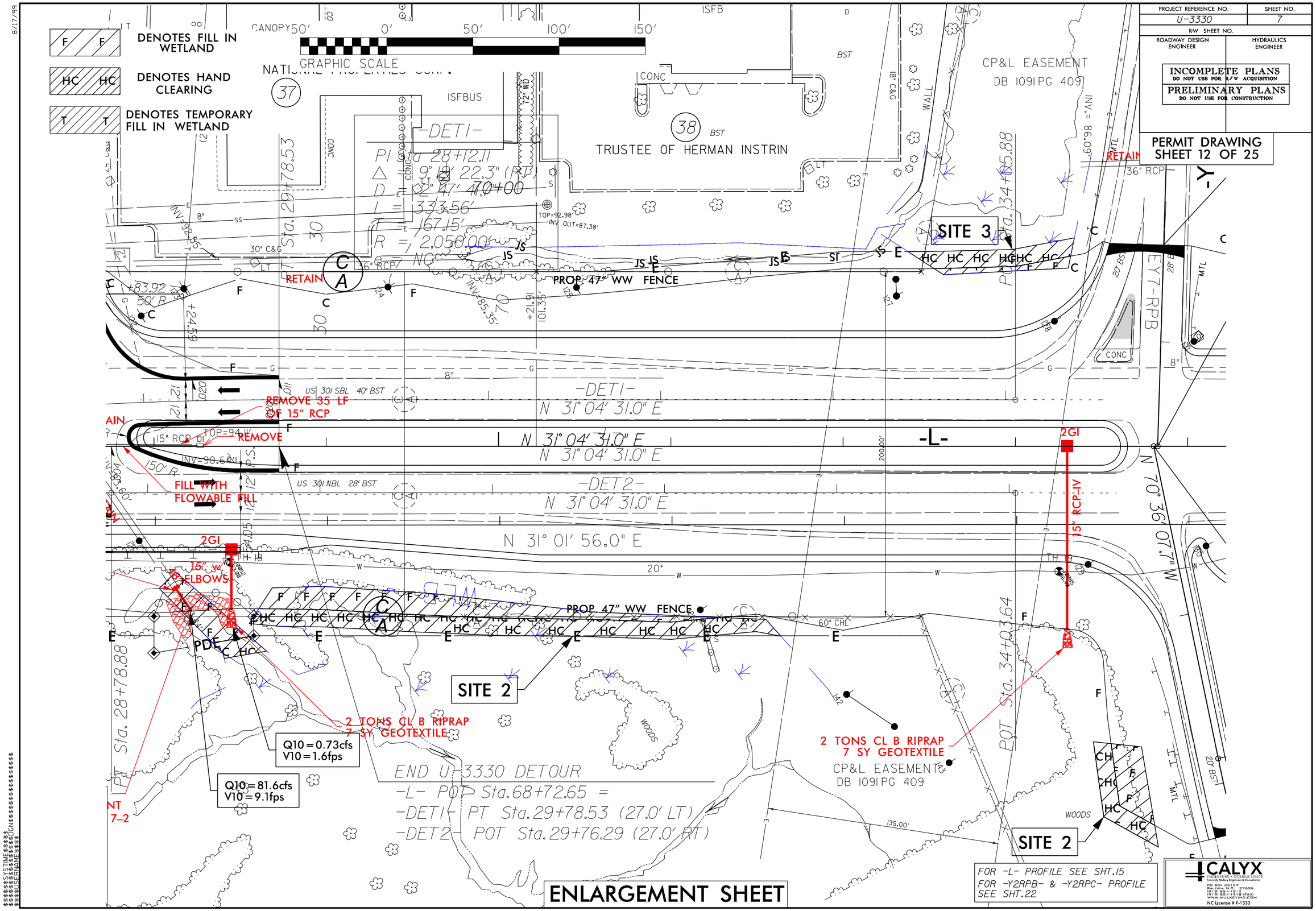
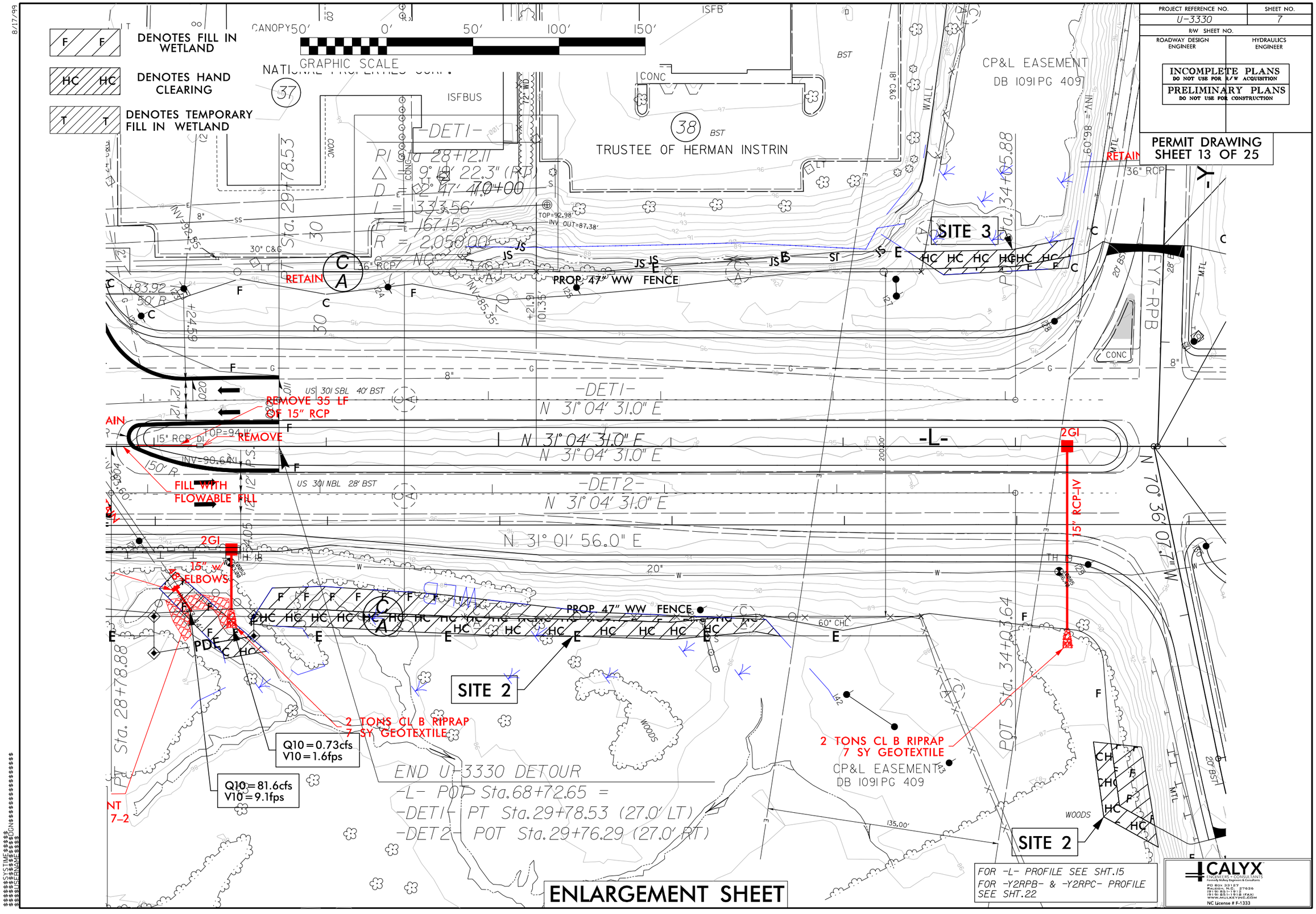
$$$$$$SYSTIME$$$$$$
$$$$$$DGN$$$$$$
$$$$$$FILENAME$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-3330	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 12 OF 25




PROJECT REFERENCE NO.
U-3330
SHEET NO.
7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 13 OF 25
DENOTES FILL IN WETLAND
DENOTES HAND CLEARING
DENOTES TEMPORARY FILL IN WETLAND
GRAPHIC SCALE
TRUSTEE OF HERMAN INSTRIN
CP&L EASEMENT
DB 1091 PG 409
SITE 3
SITE 2
PROP. 47" WW FENCE
RETAIN
REMOVE 35 LF OF 15" RCP
REMOVE
FILL WITH FLOWABLE FILL
15" RCP-IV
15" W ELBOWS
2 TONS CL B RIPRAP
7 SY GEOTEXTILE
Q10 = 0.73cfs
V10 = 1.6fps
Q10 = 81.6cfs
V10 = 9.1fps
END U-3330 DETOUR
-L- POT Sta.68+72.65 =
-DET1- PT Sta.29+78.53 (27.0' LT)
-DET2- POT Sta.29+76.29 (27.0' RT)
N 31° 04' 31.0" E
N 31° 01' 56.0" E
N 70° 36' 07.7" W
FOR -L- PROFILE SEE SHT.15
FOR -Y2RPB- & -Y2RPC- PROFILE SEE SHT.22
ENLARGEMENT SHEET
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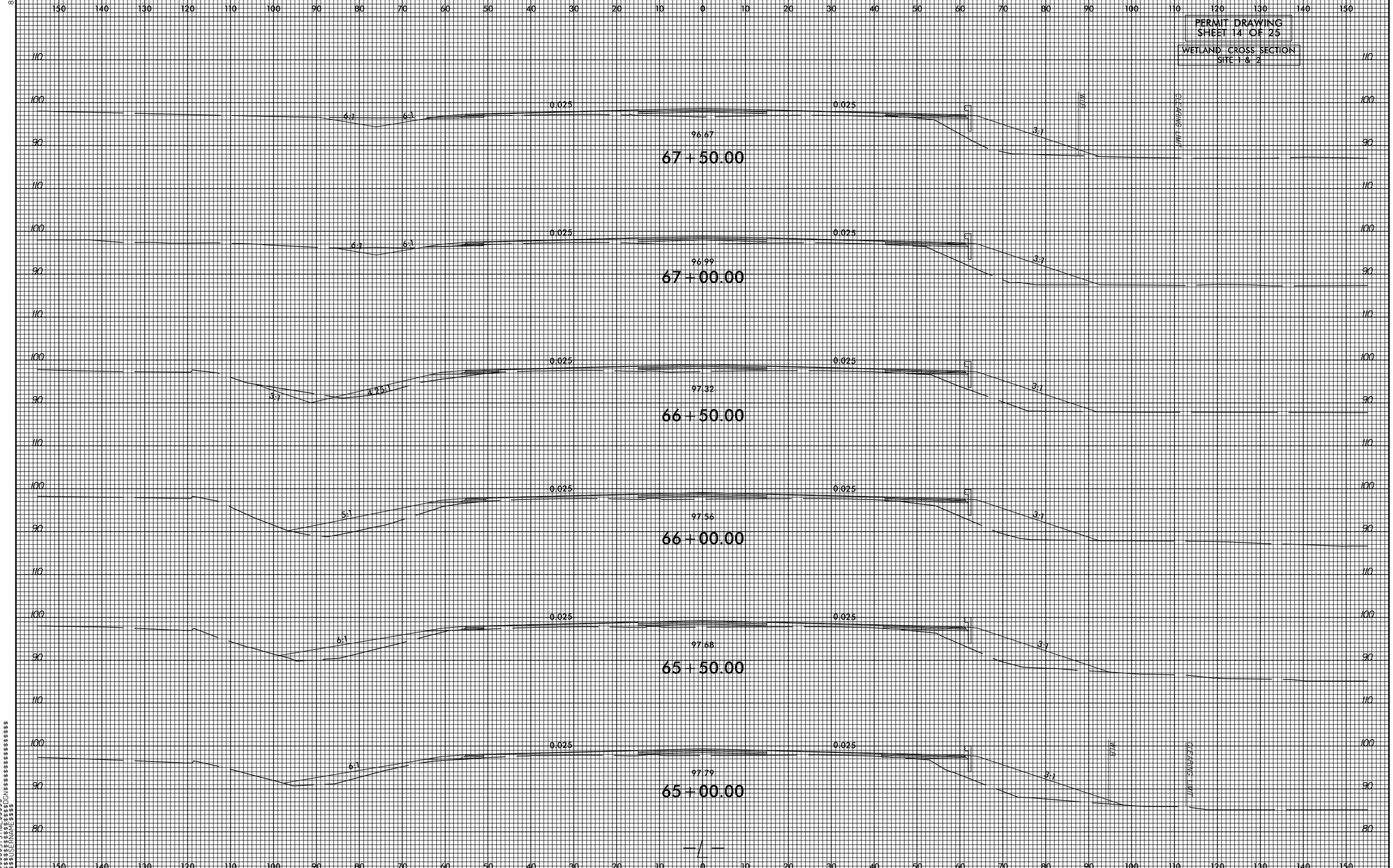
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-3330	X-16

PERMIT DRAWING
SHEET 14 OF 25

WETLAND CROSS SECTION
SITE 1 & 2



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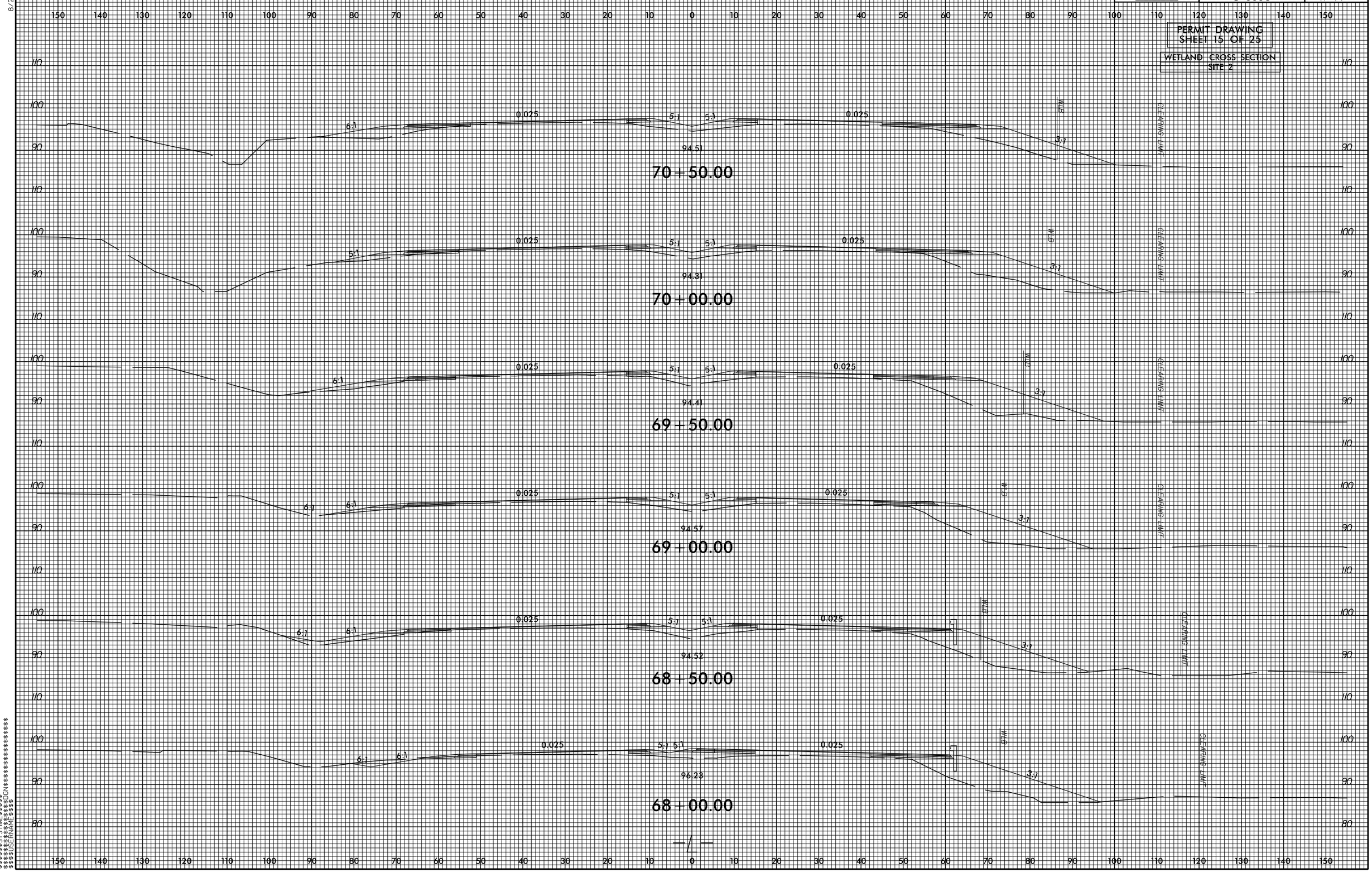
$$$$$$$$SYSTIME$$$$
$$$$$$$$SIGNON$$$$$$$$$$$$$$$$$$$$
$$$$$$$$USERNAME$$$$

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-3330	X-17

PERMIT DRAWING
SHEET 15 OF 25

WETLAND CROSS SECTION
SITE 2



8/23/99

$$$$$$$$SYSTIME$$$$
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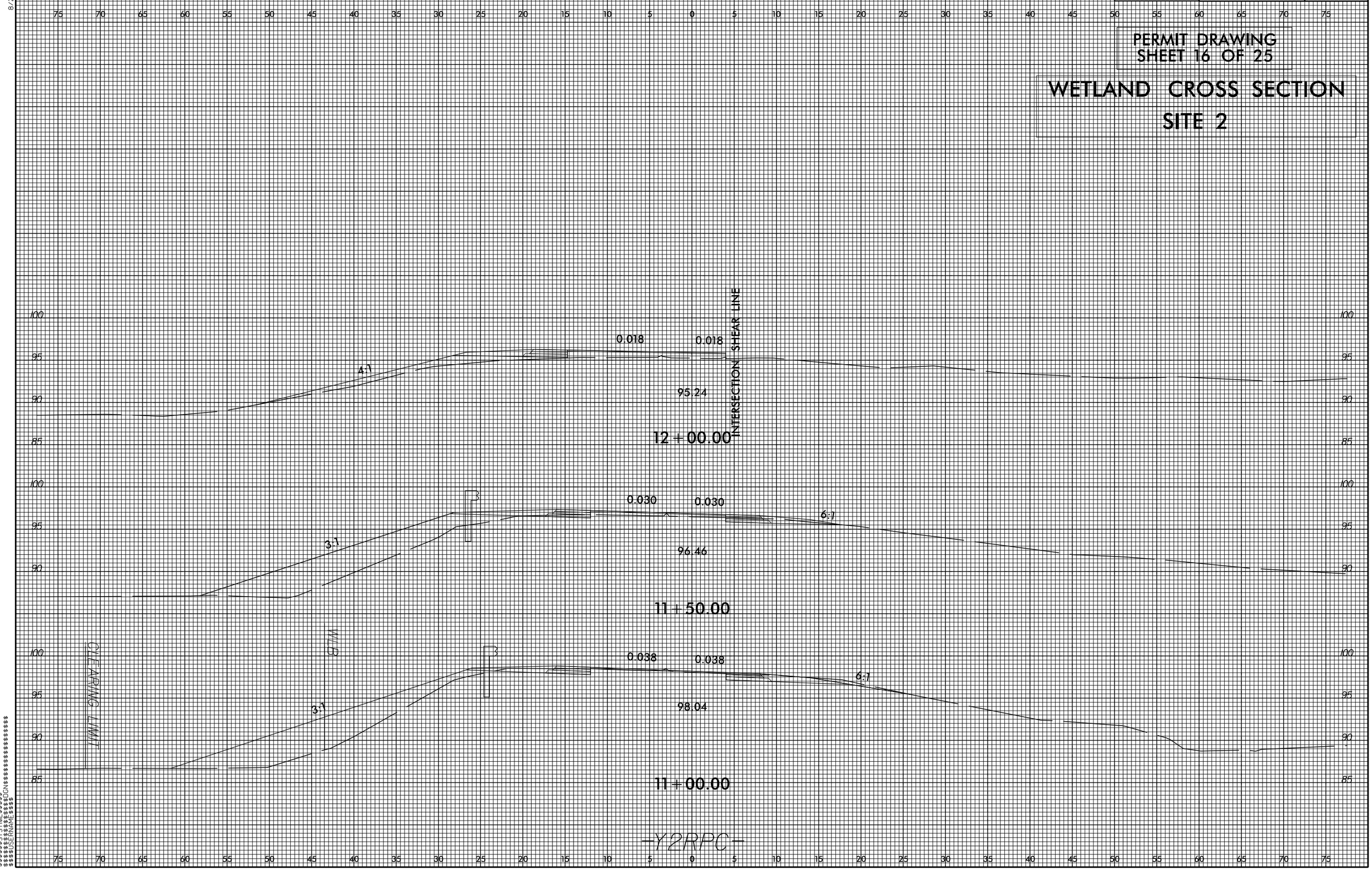
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3330	X-62

PERMIT DRAWING
SHEET 16 OF 25

WETLAND CROSS SECTION
SITE 2



8/23/99

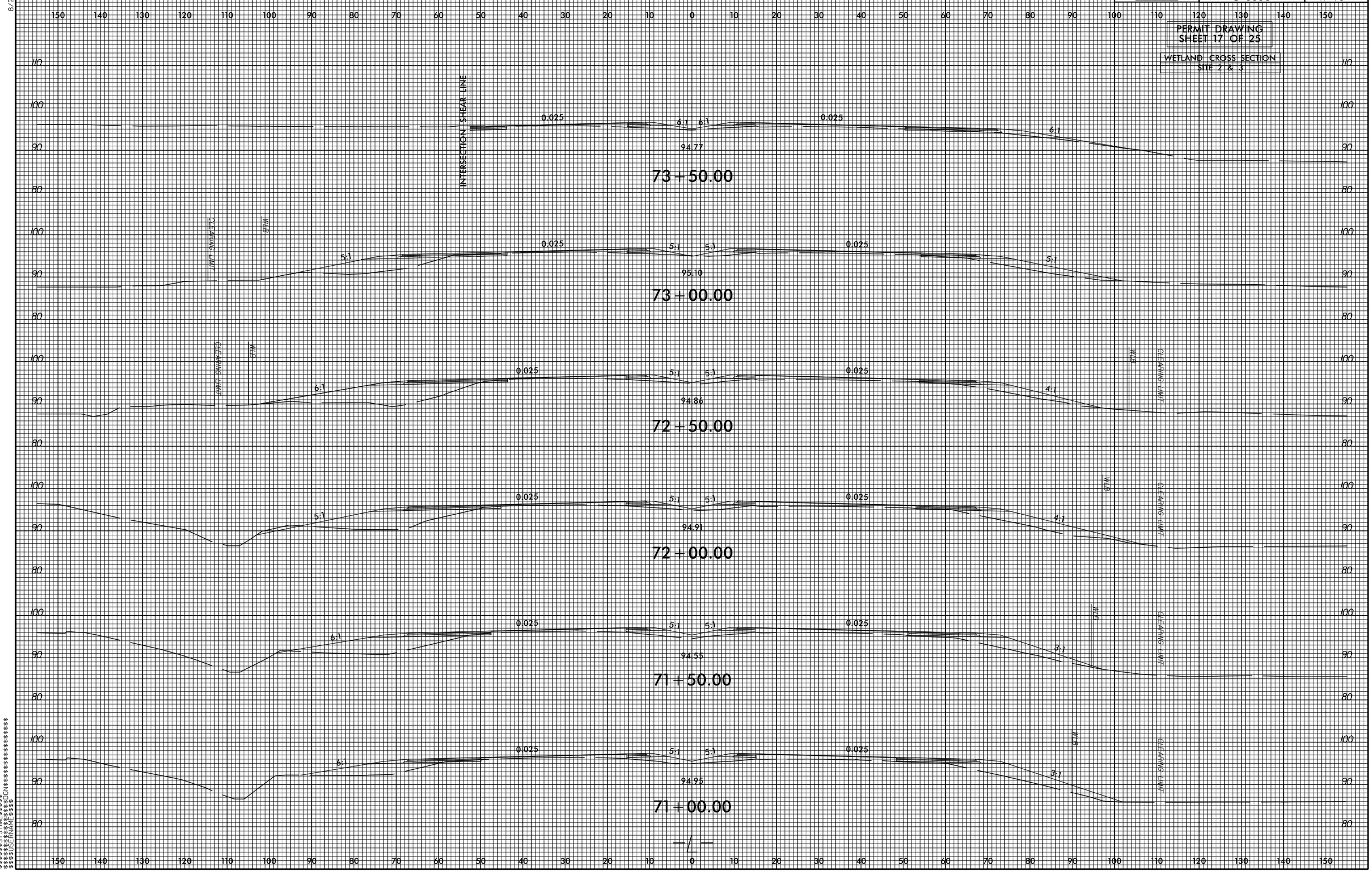
$$$$$$$$SYSTIME$$$$
$$$$$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-3330	X-18

PERMIT DRAWING
SHEET 17 OF 25

WETLAND CROSS SECTION
SITE 2 & 3



—/—

$$$$$$$$CYSTIME$$$$
$$$$$$$$SIMES$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

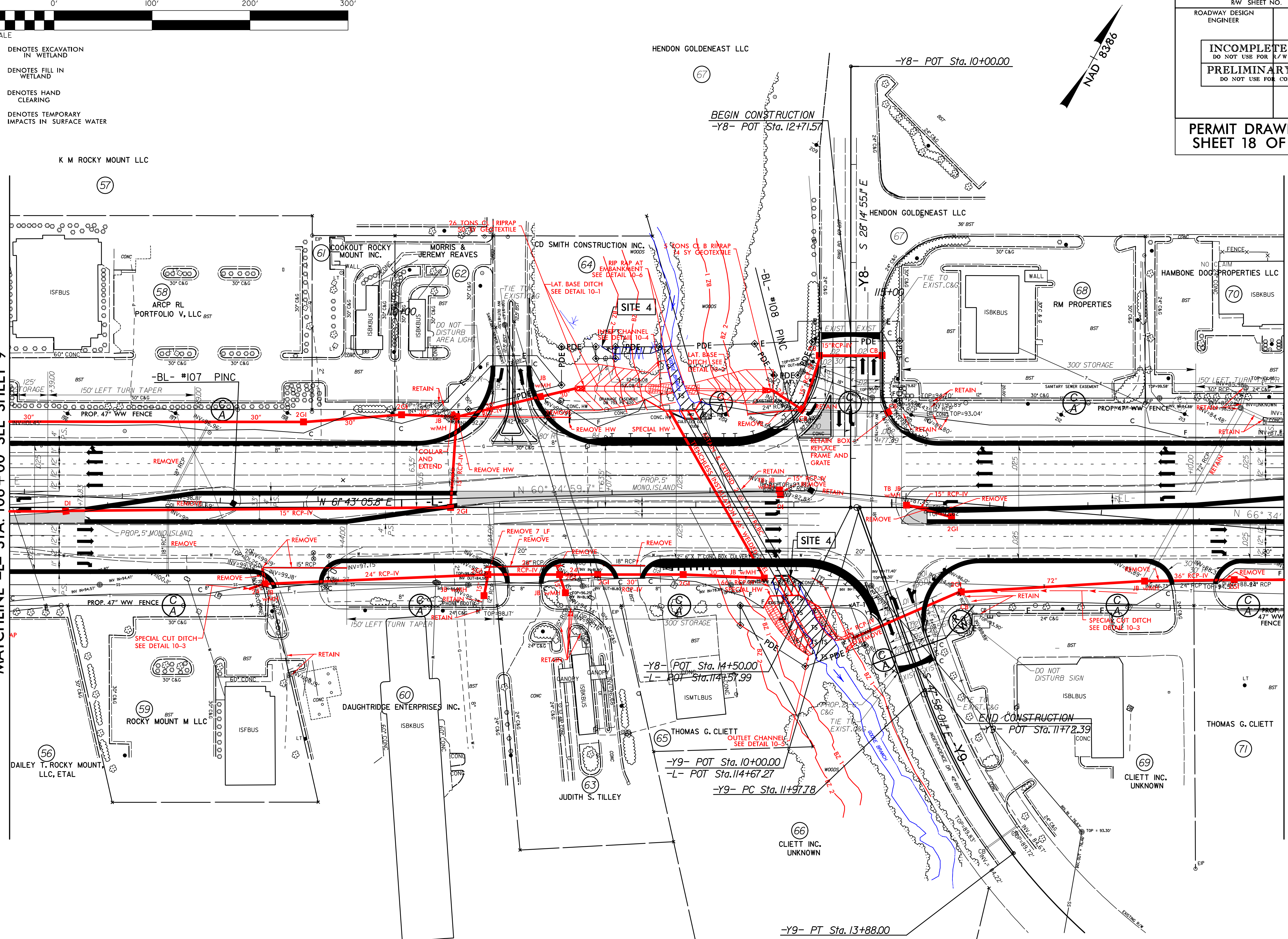
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 18 OF 25

8/17/99

GRAPHIC SCALE 100' 0' 100' 200' 300'

- E E — DENOTES EXCAVATION IN WETLAND
- F F — DENOTES FILL IN WETLAND
- HC HC — DENOTES HAND CLEARING
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER



DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.17 & 18
FOR -Y8- & -Y9- PROFILE
SEE SHT.24

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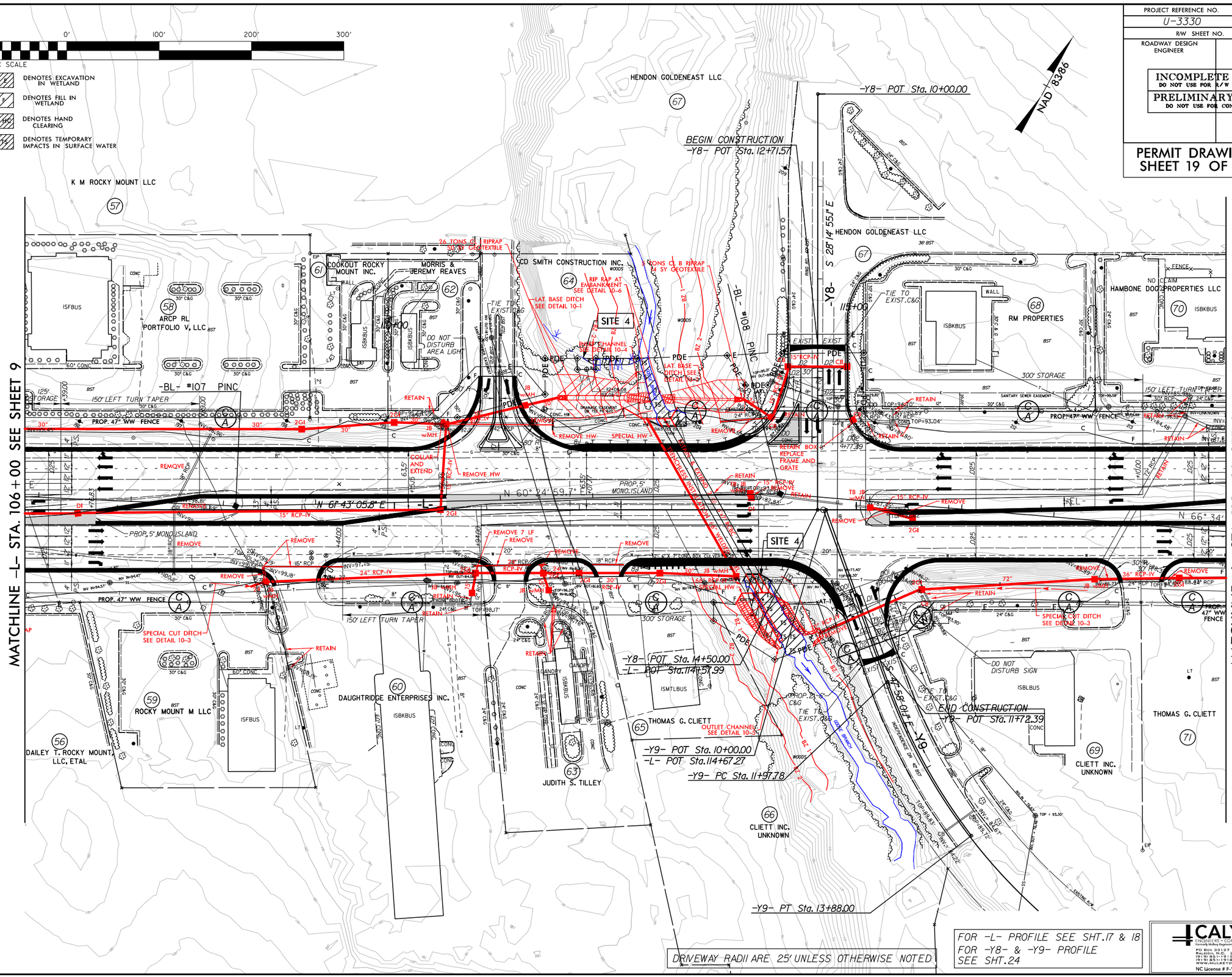
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 19 OF 25



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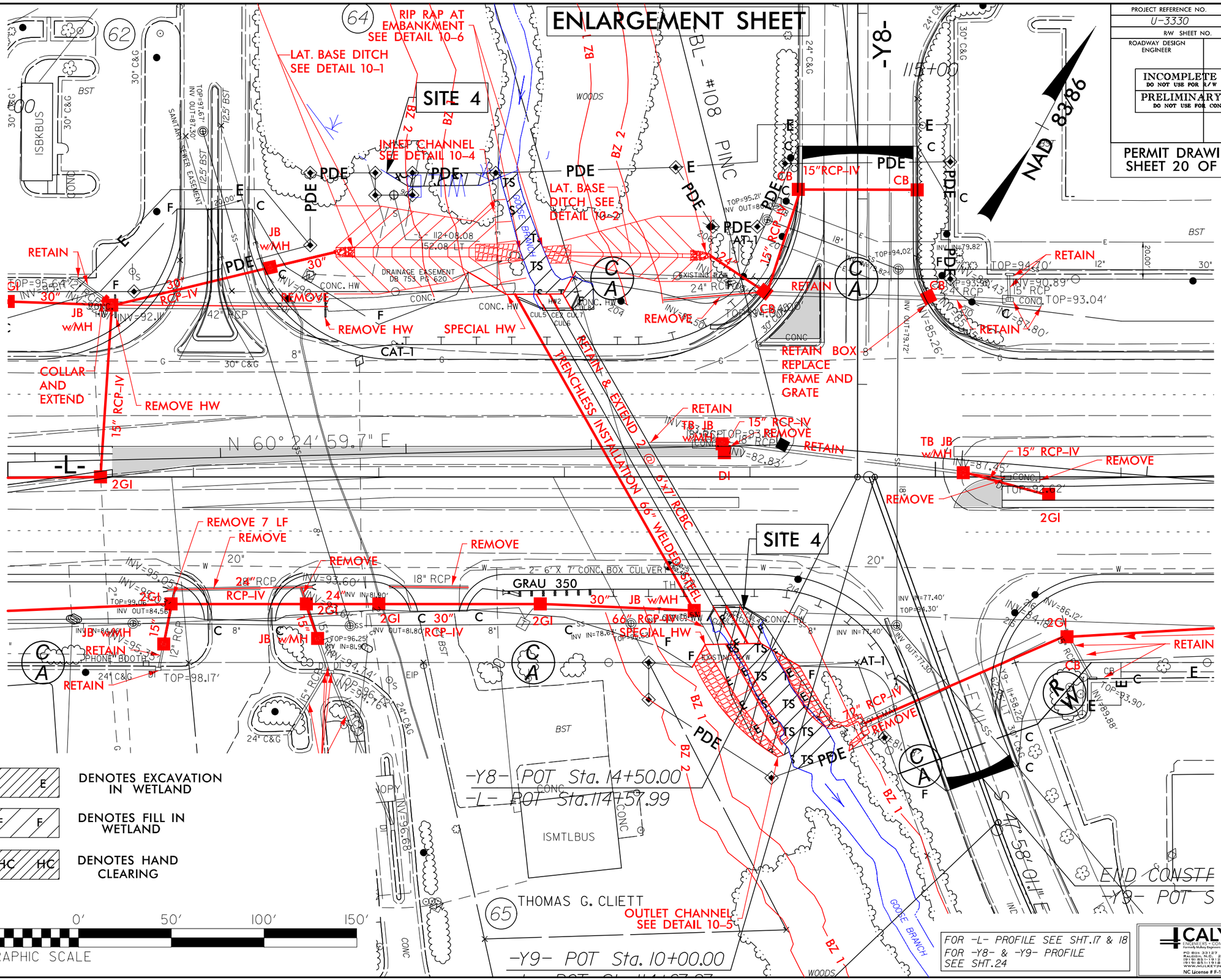
$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
USERNAME$$$$

ENLARGEMENT SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 20 OF 25



FOR -L- PROFILE SEE SHT.17 & 18
FOR -Y8- & -Y9- PROFILE
SEE SHT.24

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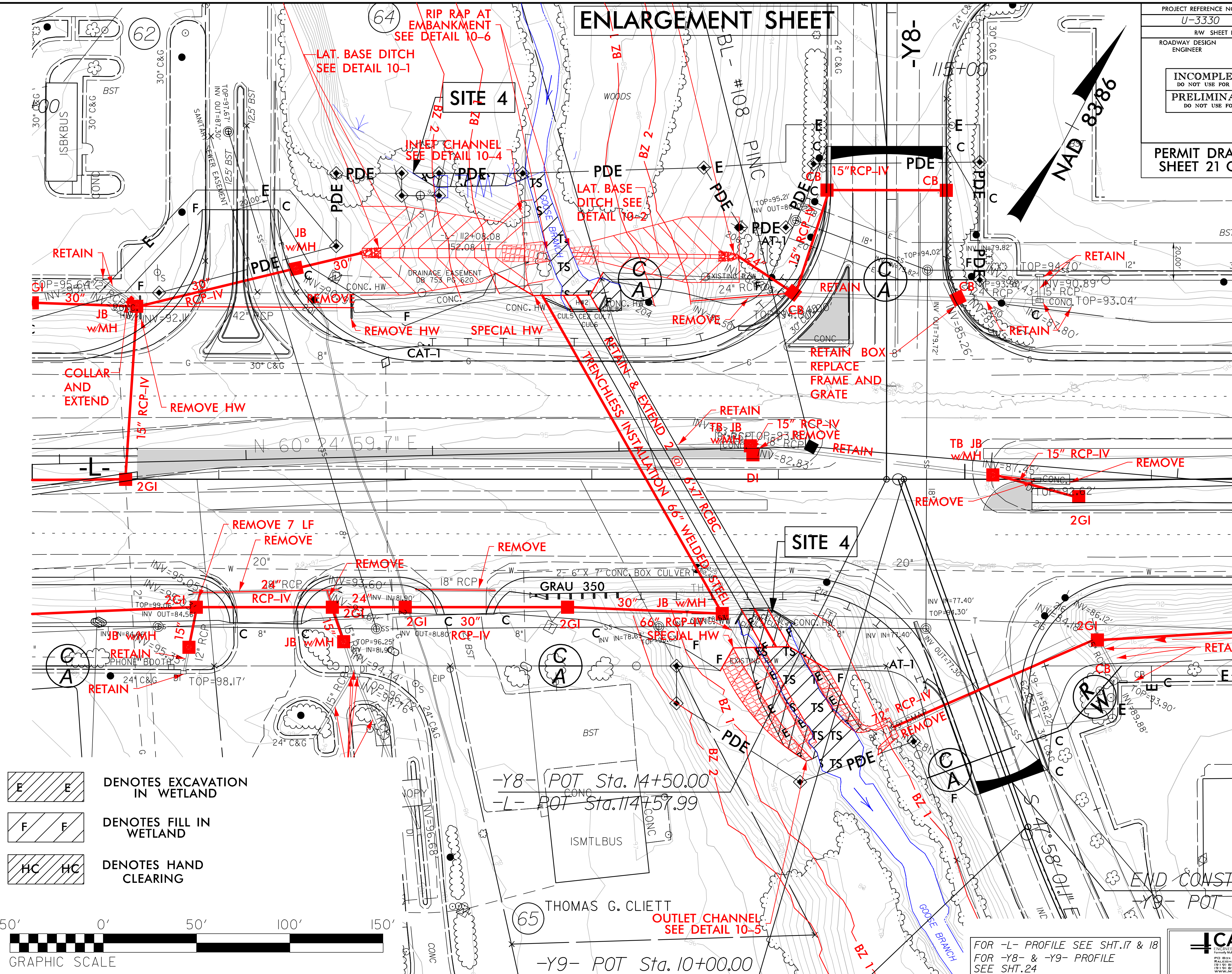
PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 21 OF 25

ENLARGEMENT SHEET



FOR -L- PROFILE SEE SHT.17 & 18
FOR -Y8- & -Y9- PROFILE SEE SHT.24

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NC License # F-1333

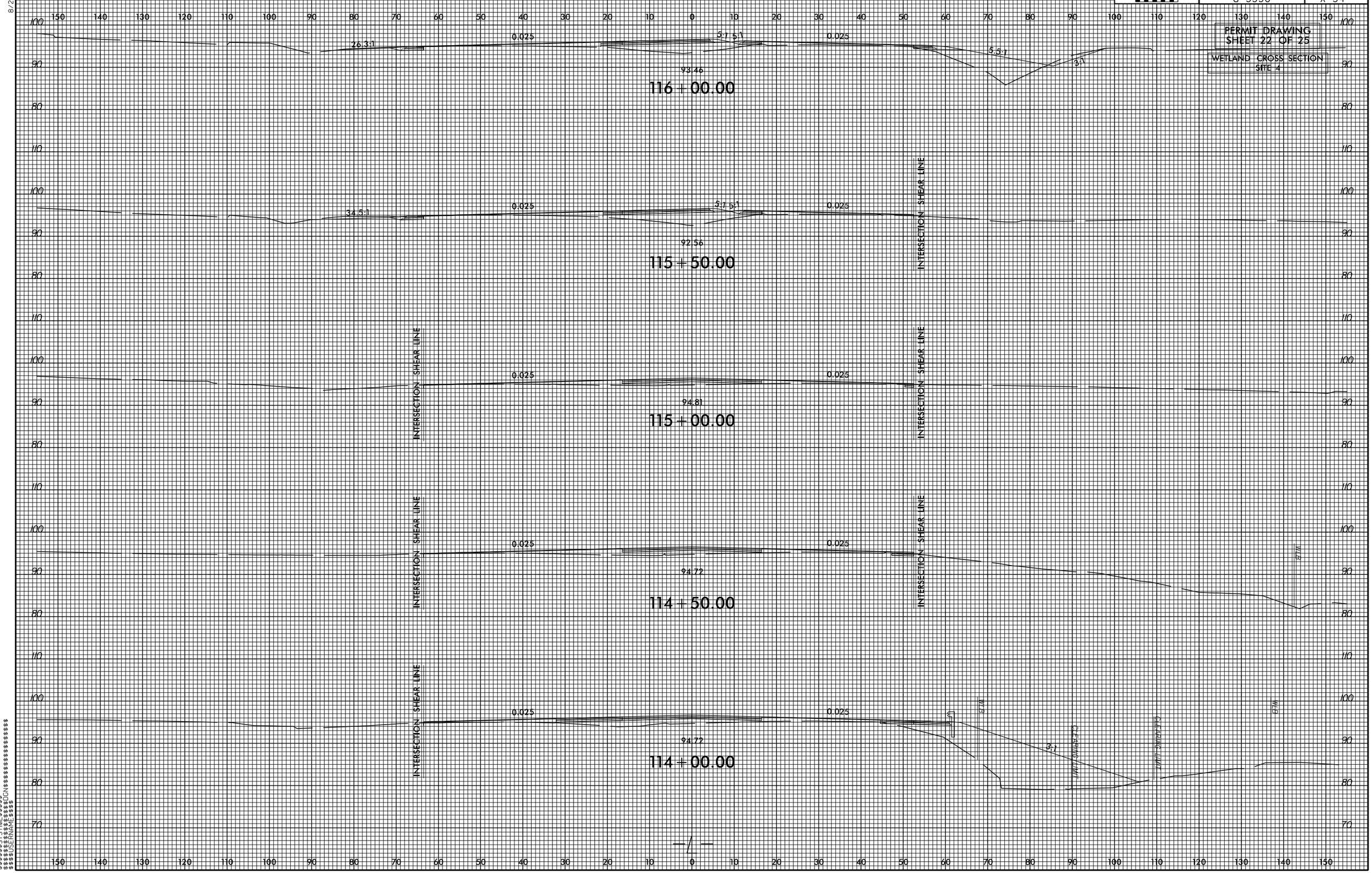
8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-3330	X-34

0 5 10

PERMIT DRAWING
SHEET 22 OF 25

WETLAND CROSS SECTION
SITE 4



$$$$$$$$SYSTIME$$$$
$$$$$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$$USERNAME$$$$

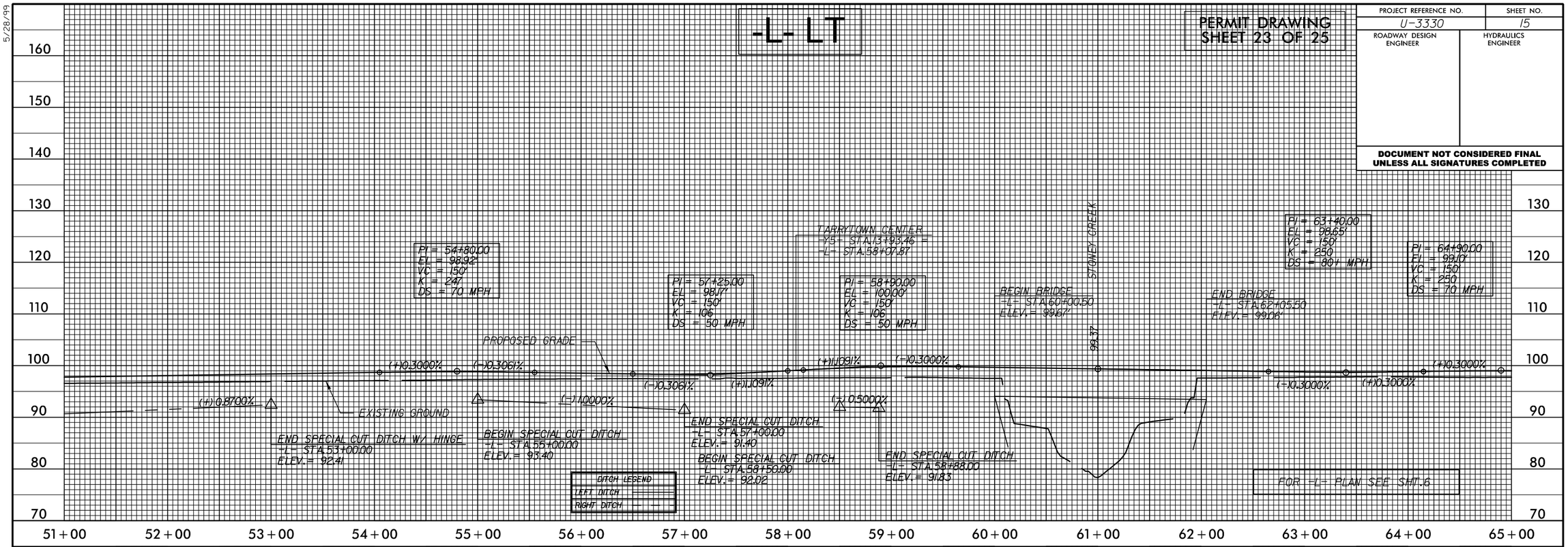
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

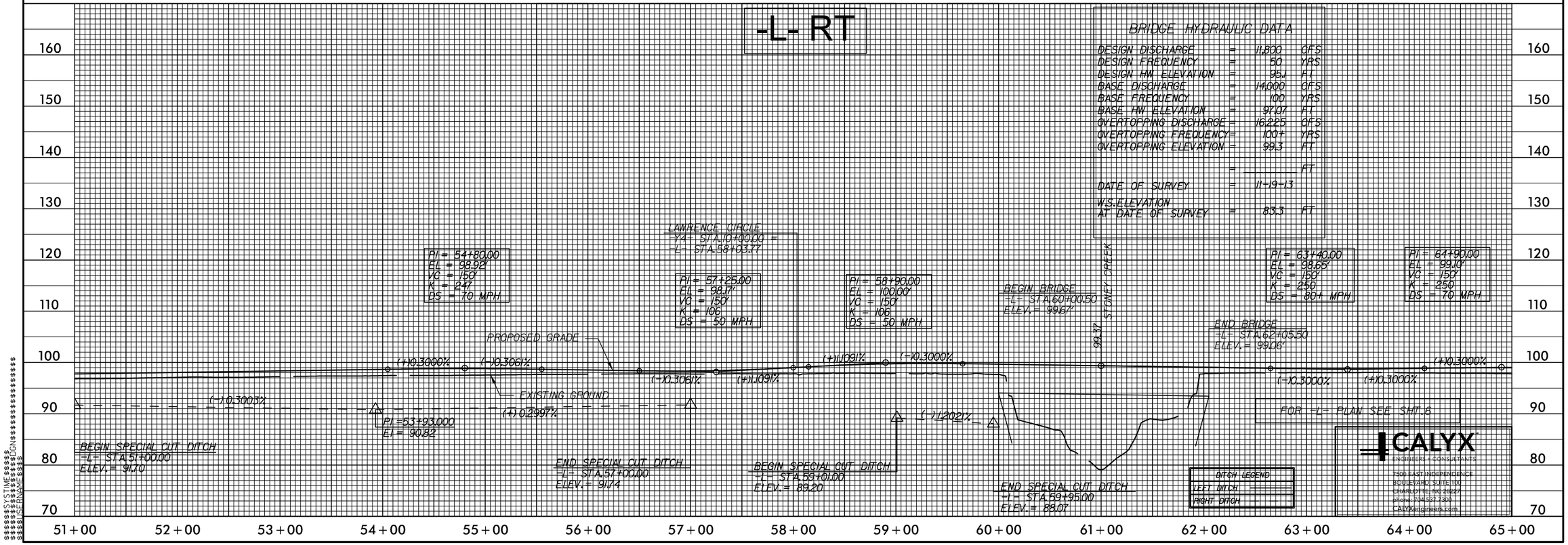
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 23 OF 25

-L- LT



-L- RT



CALYX
ENGINEERS + CONSULTANTS
7500 EAST INDEPENDENCE BOULEVARD, SUITE 100
CHARLOTTE, NC 28227
phone: 704.527.7300
CALYXengineers.com

$$$$SYSTEM$$$$
$$$$USERNAME$$$$
$$$$DATE$$$$
$$$$TIME$$$$

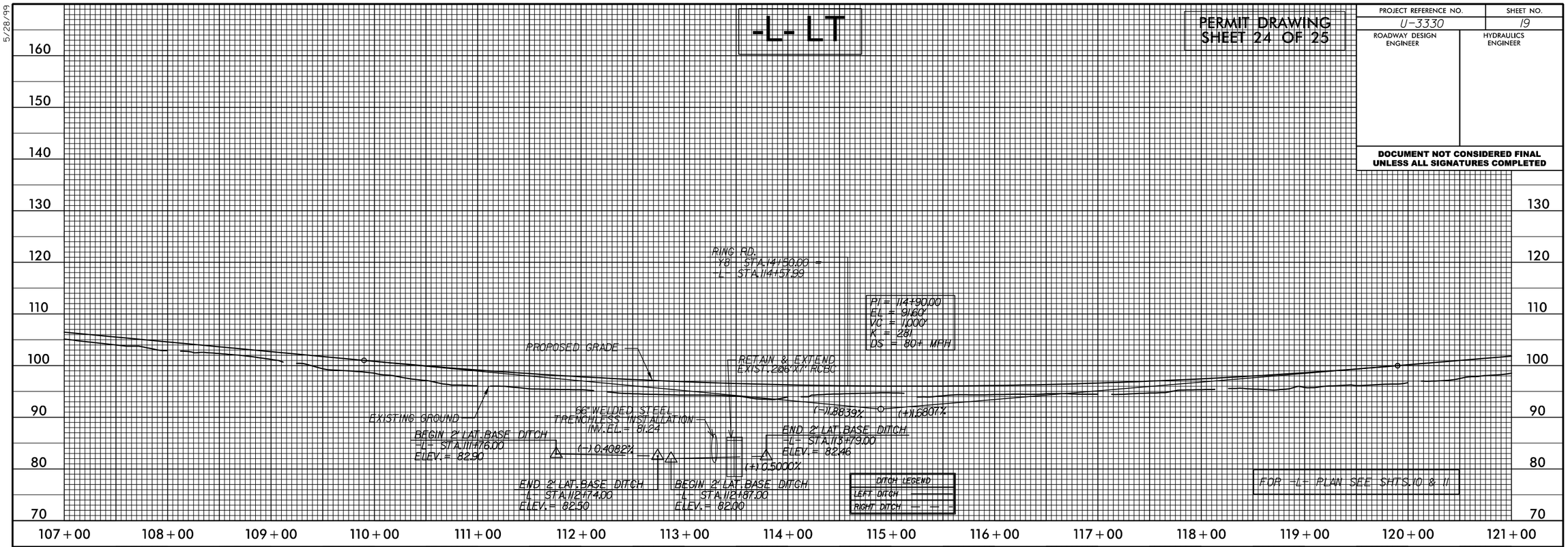
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

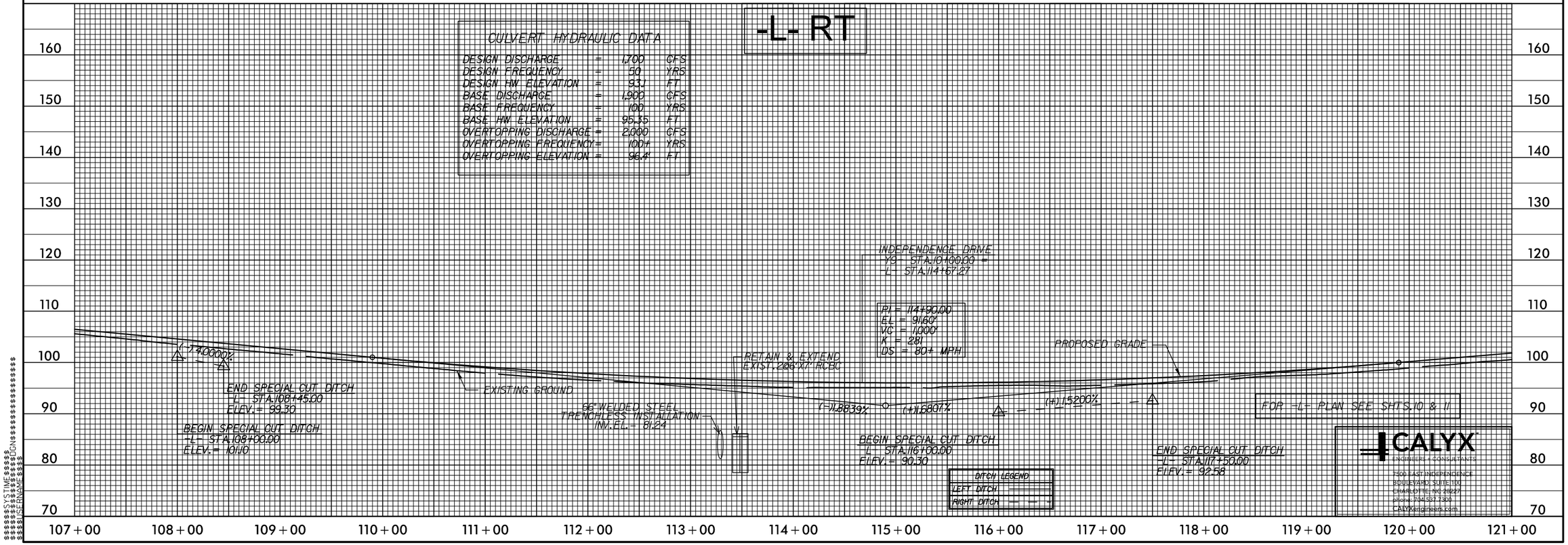
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 24 OF 25

-L- LT



-L- RT



CALYX
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7500 EAST INDEPENDENCE BOULEVARD, SUITE 100
CHARLOTTE, NC 28227
phone: 704.527.7301
CALYXengineers.com

$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$USERNAME$$$$$$$$
$$$$$$$$SCNAME$$$$$$$$
$$$$$$$$LEGEND$$$$$$$$

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	L 62+91 to 65+25 RT	Roadway Fill	<0.01	0.03			0.03					
2	L 68+03 to 71+64 RT	Roadway Fill	0.07				0.07					
	Y2RPC 10+71 to 11+37 LT	Roadway Fill	0.02				0.02					
3	L 72+38 to 73+34 LT	Roadway Fill	0.01				0.02					
4	L 113+70 to 114+43	2@6'x7' Culvert	0.02		0.02		0.01		0.05	47	143	
		Bank Stabilization								73		
5	L 60+68 to 61+27 RT	Temporary Work							0.13		132	
		Bridges										
TOTALS:			0.12	0.03	0.02	0.00	0.15	0.00	0.18	120	275	0

Stream Bank Stabilization = 73 feet

Note: 0.05 acres of Temporary Fill in Wetlands in the Hand Clearing areas for erosion control measures.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

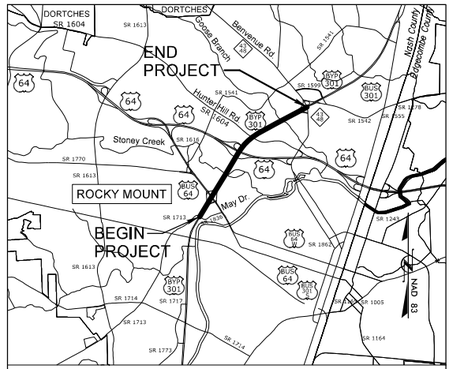
NASH COUNTY
U-3330

09/08/99

TIP PROJECT: U-3330

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3330	1	

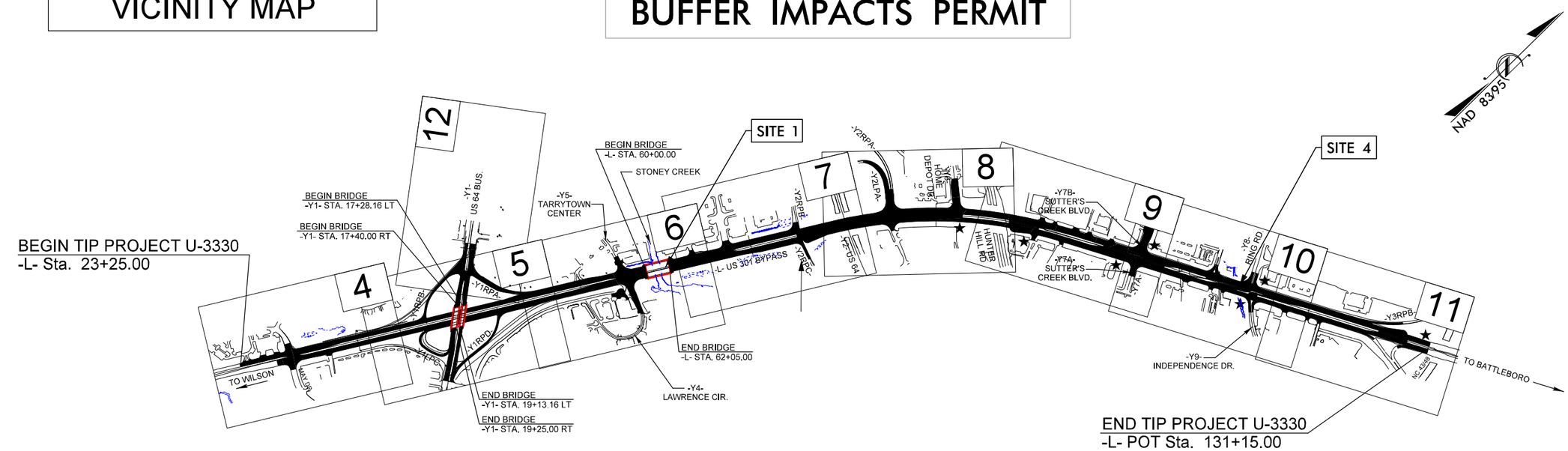
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
36596.1.2	STP – 0301 (28)	PE
36596.2.1		R/W
36596.2.U1		UTIL.

BUFFER DRAWING
SHEET 1 OF 4

LOCATION: ROCKY MOUNT – US 301 BYPASS FROM SR 1836 (MAY DRIVE) TO NC 43–48 (BENVENUE ROAD) INTERCHANGE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, AND CULVERT

BUFFER IMPACTS PERMIT



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF ROCKY MOUNT.

★ TRAFFIC SIGNAL

DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS FOR –Y1LPC–

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 38,580
ADT 2036 = 47,100
K = 10%
D = 55%
T = 4%*
V = 50 mph

*TTST 2% DUAL 2%
FUNCTIONAL CLASS.:URBAN ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U–3330	2.005 Miles
LENGTH STRUCTURE TIP PROJECT U–3330	0.039 Mile
TOTAL LENGTH TIP PROJECT U–3330	2.044 Miles

Prepared In the Office of:
CALYX ENGINEERS + CONSULTANTS NC License # F-1333
FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 21, 2014

LETTING DATE:
NOVEMBER 15, 2016

NCDOT CONTACT:

Steve A. Drum, P.E.
PROJECT ENGINEER

Michael A. Holt, P.E.
PROJECT DESIGN ENGINEER

Brenda Moore, P.E., CPM
PROJECT ENGINEER – ROADWAY DESIGN

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

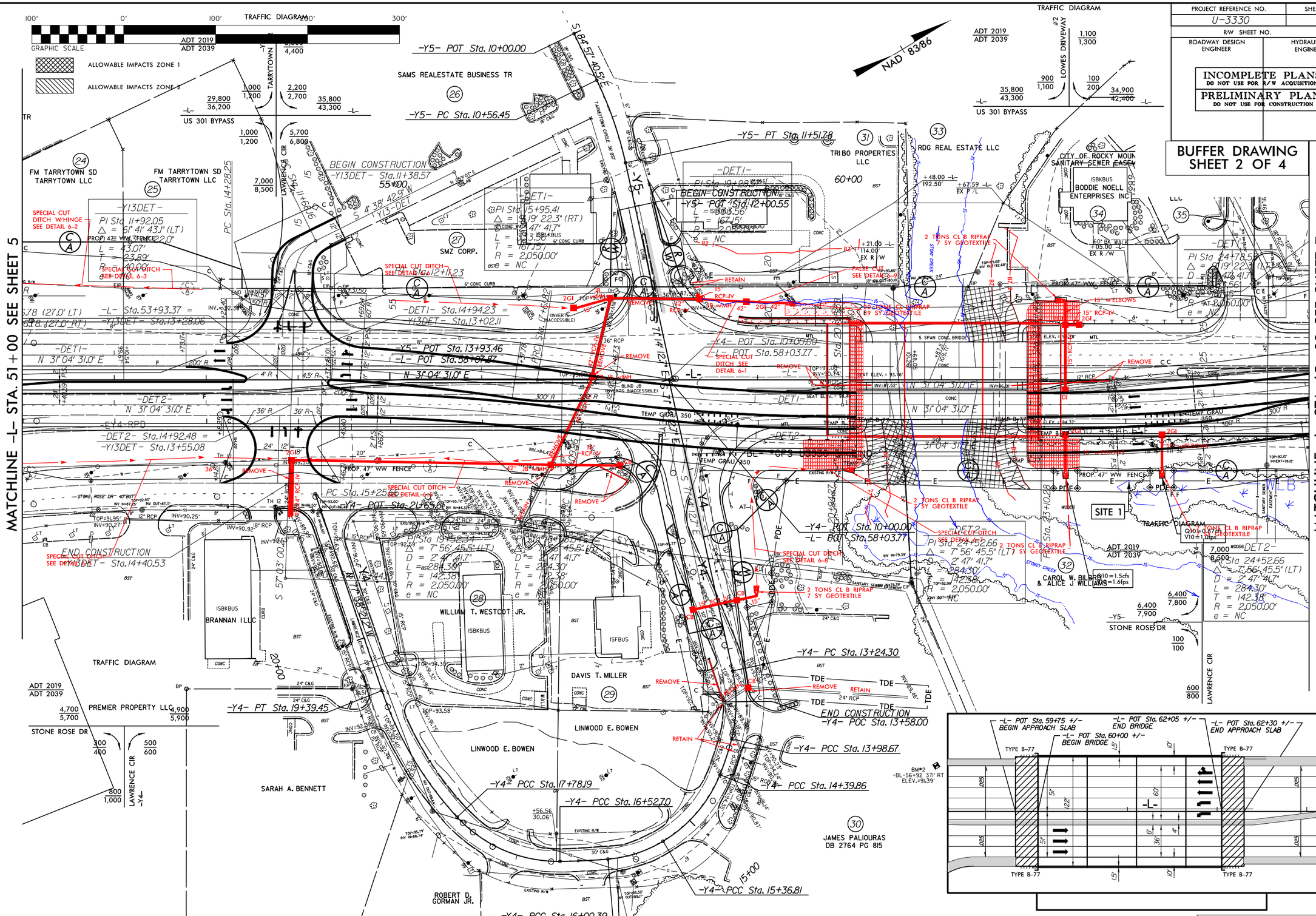
$$$$SYSTIME$$$$
$$$$USERNAME$$$$
$$$$DGN$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 2 OF 4



DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.14
FOR -Y4- & -Y5- PROFILE SEE SHT.23

CALYX ENGINEERS + CONSULTANTS
Formerly Mulkey Engineers & Consultants
PO BOX 33127
RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 FAX
WWW.MULKEYINC.COM
NC License # F-1333

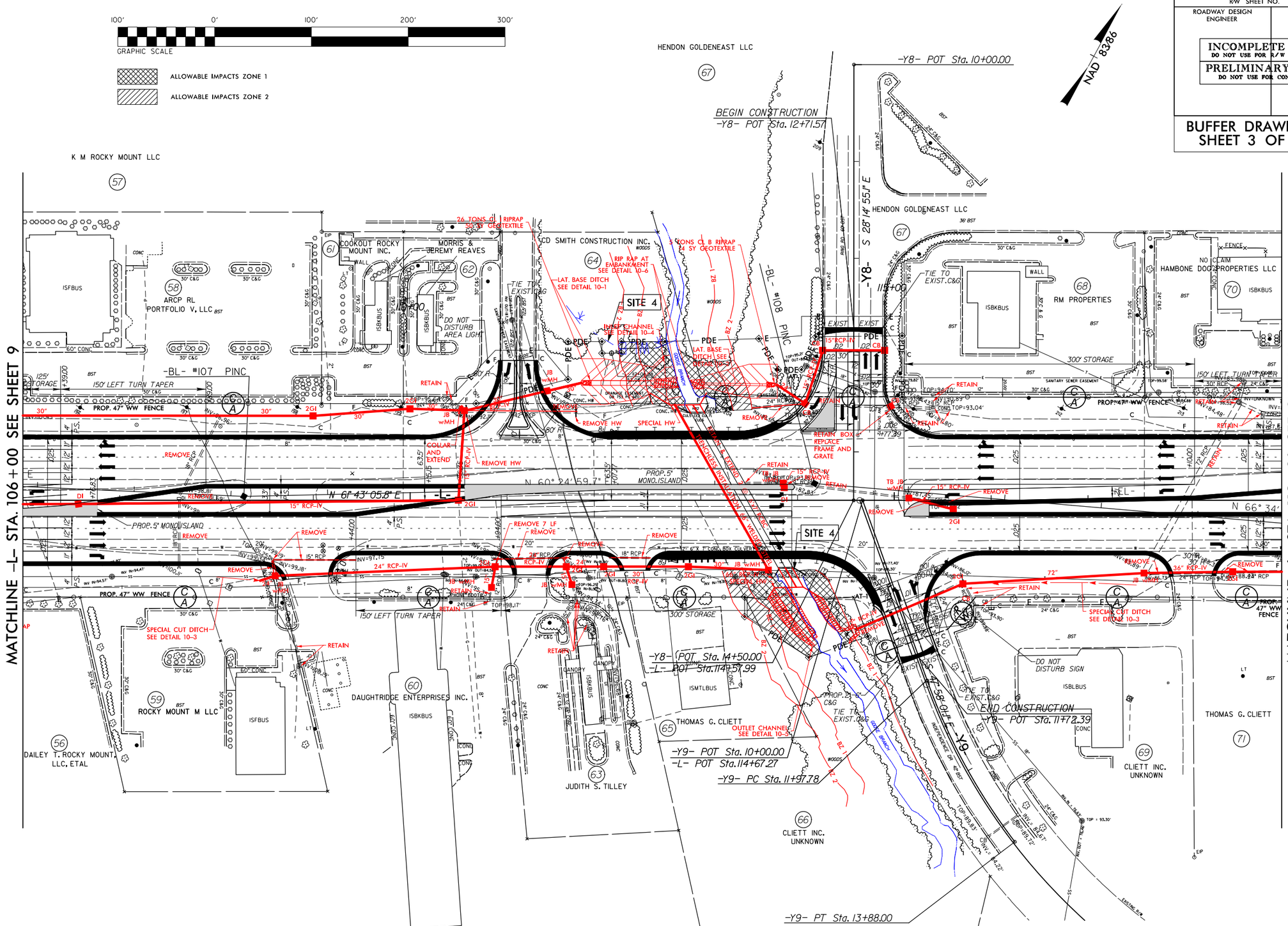
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 3 OF 4



FOR -L- PROFILE SEE SHT.17 & 18
FOR -Y8- & -Y9- PROFILE SEE SHT.24

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ENGINEERS + CONSULTANTS
Formerly Mulkey Engineers & Consultants
PO BOX 33127
RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM
NC License # F-1333

8/17/99

$$$$SYSTIME$$$$DGN$$$$USERNAME$$$$

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	Span Conc. Bridge	L 60+16 to 61+85		X		7206	3942						
4	2@6'x7' BOX CULVERT	L 112+23 to 114+26	X			8303	3526						
TOTAL:						15509	7468	22977					

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
PROJECT: U-3330

9/22/2016
SHEET 4 OF 4

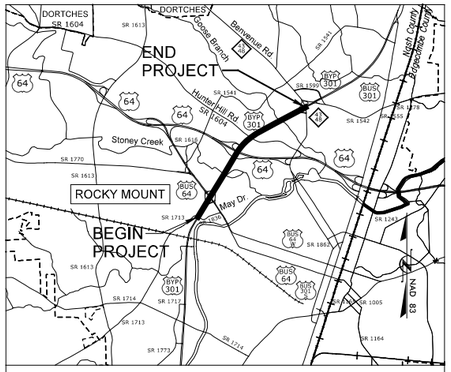
Rev. May 2006

09/08/99

TIP PROJECT: U-3330

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

NES PERMIT DRAWING PLANS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3330	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
36596.1.2	STP - 0301 (28)	PE
36596.2.1		R/W
36596.2.U1		UTIL.

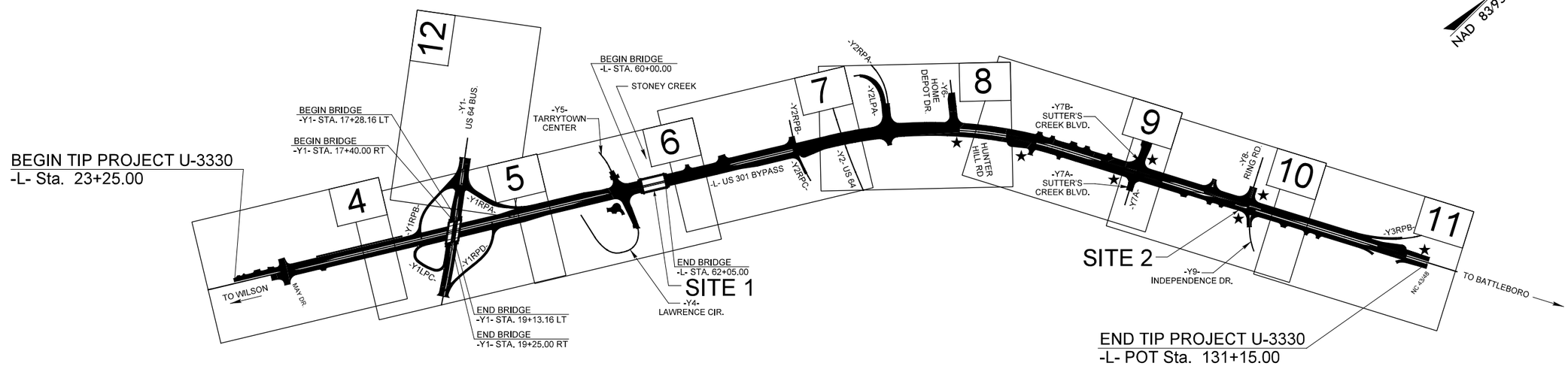
NES PERMIT PLANS
REV (August 31, 2016)

Utility Permit Drawing
Sheet 1 of 6

LOCATION: ***ROCKY MOUNT – US 301 BYPASS FROM SR 1836 (MAY DRIVE) TO NC 43–48 (BENVENUE ROAD) INTERCHANGE***

TYPE OF WORK: ***TELEPHONE, WATER AND GRAVITY SEWER RELOCATIONS***

NAD 83/95



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF ROCKY MOUNT.

★ TRAFFIC SIGNAL

DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS FOR –Y1LPC–

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 38,580
ADT 2036 = 47,100
K = 10%
D = 55%
T = 4%*
V = 50 mph

*TTST 2% DUAL 2%
FUNCTIONAL CLASS.:URBAN ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U–3330	2.005 Miles
LENGTH STRUCTURE TIP PROJECT U–3330	0.039 Mile
TOTAL LENGTH TIP PROJECT U–3330	2.044 Miles

FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION
2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 21, 2014

LETTING DATE:
NOVEMBER 15, 2016

NCDOT CONTACT:
Brenda Moore, P.E., CPM
PROJECT ENGINEER – ROADWAY DESIGN

PLANS PREPARED BY:
CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

Mary Jo Lee, P.E.
UTILITIES PROJECT ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

8/31/2016
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USERNAME=

NES PERMIT PLANS
REV (August 31, 2016)

PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

4/29/2015 : REVISED NAME AND DEED REFERENCES FOR PARCELS 30, 32, 33, 35, & 36; REVISED DEED REFERENCE FOR PARCELS 25 & 27; REVISED PROPERTY LINES AND EXISTING R/W FOR PARCELS 24 & 26; PARCEL 28 REMOVED. THE TEMPORARY CONSTRUCTION EASEMENT THEREBY ELIMINATED CLAIM. - SD

11/02/2015 : ADDED A STATION LABEL FOR PROPOSED 24" CMP ON PARCEL 26; ADDED "DO NOT DISTURB SIGN OR AREA LIGHT" NOTE ON PARCEL 29; REVISED PROPOSED RIGHT OF WAY AND ADDED "DO NOT DISTURB SIGN" ON PARCEL 31. - SD

8/17/99

8/31/2016
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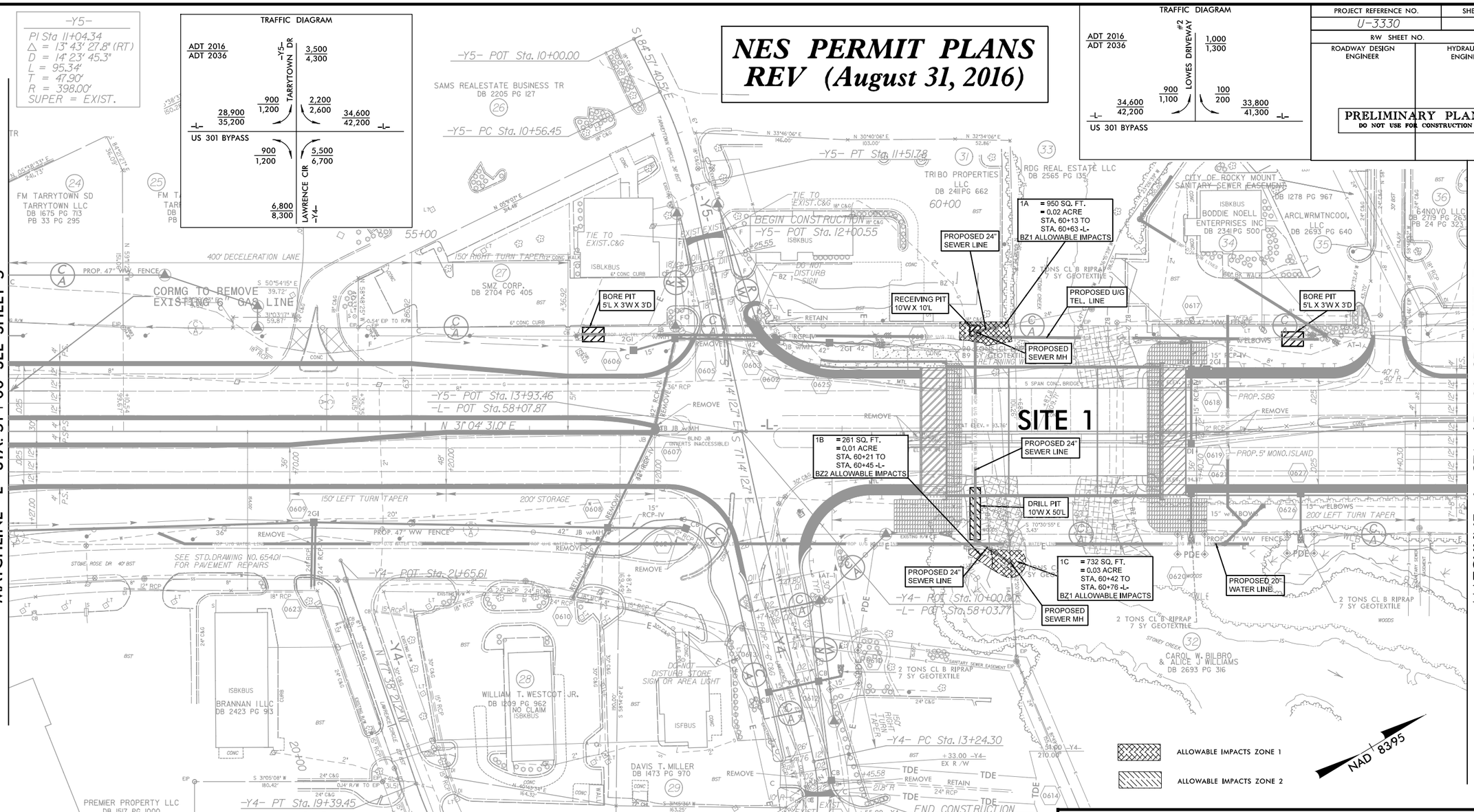
ISFENAME

MATCHLINE -L- STA. 51+00 SEE SHEET 5

MATCHLINE -L- STA. 65+00 SEE SHEET 7

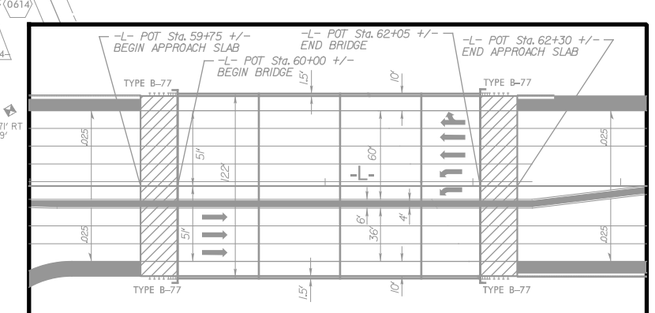


Utility Permit Drawing
Sheet 2 of 6

-Y4-

PI Sta 13+62.15	PI Sta 14+19.30	PI Sta 14+90.10
Δ = 26° 18' 11.2" (RT)	Δ = 8° 01' 41.2" (RT)	Δ = 37° 01' 54.5" (RT)
D = 35° 22' 04.0"	D = 19° 29' 18.1"	D = 38° 11' 49.9"
L = 74.37'	L = 41.19'	L = 96.95'
T = 37.85'	T = 20.63'	T = 50.24'
R = 162.00'	R = 294.00'	R = 150.00'
SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.

PI Sta 15+69.16	PI Sta 16+26.55	PI Sta 17+19.38	PI Sta 18+60.02
Δ = 26° 01' 08.6" (RT)	Δ = 4° 16' 53.1" (RT)	Δ = 47° 56' 10.5" (RT)	Δ = 23° 59' 52.5" (RT)
D = 40° 55' 32.0"	D = 8° 11' 06.4"	D = 38° 11' 49.9"	D = 14° 52' 55.3"
L = 63.58'	L = 52.31'	L = 125.50'	L = 161.25'
T = 32.35'	T = 26.17'	T = 66.68'	T = 81.83'
R = 140.00'	R = 700.00'	R = 150.00'	R = 385.00'
SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.



BRIDGE /PAVEMENT RELATIONSHIP SKETCH

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

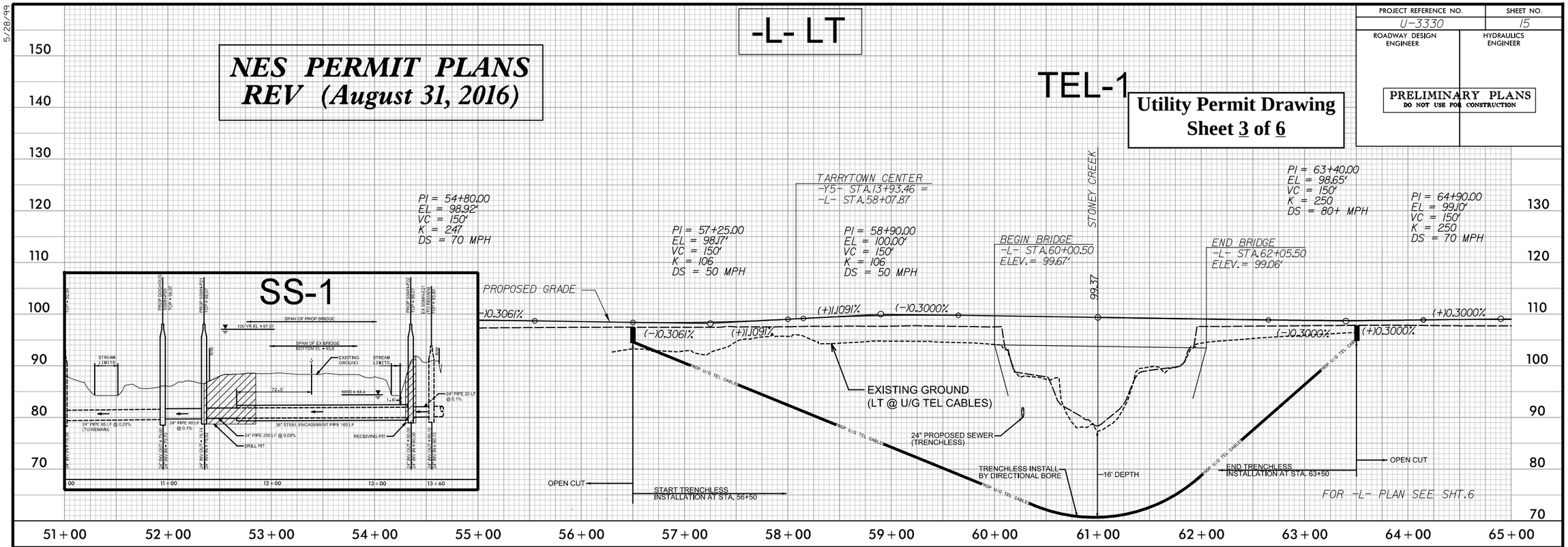
FOR -L- PROFILE SEE SHT.15
FOR -Y4- & -Y5- PROFILE SEE SHT.24
SEE SHT.2D-1 FOR DITCH DETAILS
SEE SHT.2B-2 FOR INTERSECTION DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-3330	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NES PERMIT PLANS
REV (August 31, 2016)

Utility Permit Drawing
Sheet 3 of 6



5/28/99

8/31/2016
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USERNAME

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

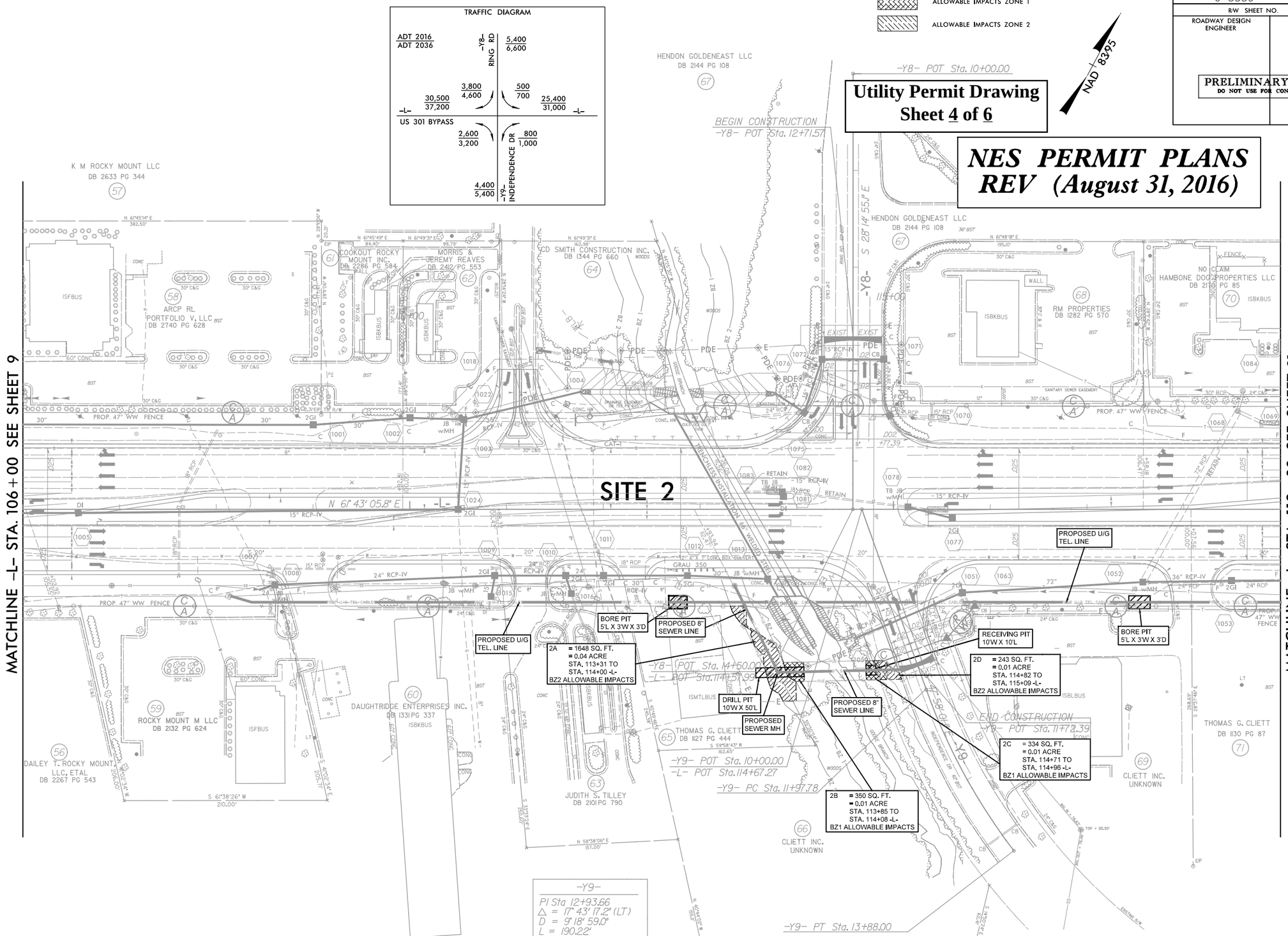
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Utility Permit Drawing
Sheet 4 of 6

NES PERMIT PLANS
REV (August 31, 2016)

ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

NAD 83/95



REVISIONS

11/10/2015 : UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 56; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 58; ADDED "DO NOT DISTURB AREA LIGHT" ON PARCEL 62; UPDATED PARCEL 47; ADDED "NO CLAIM" NOTE ON PARCEL 70. - SD
UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY AND ADDED "NO CLAIM" NOTE ON PARCEL 70. - SD

8/17/99

8/31/2016
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USERNAME

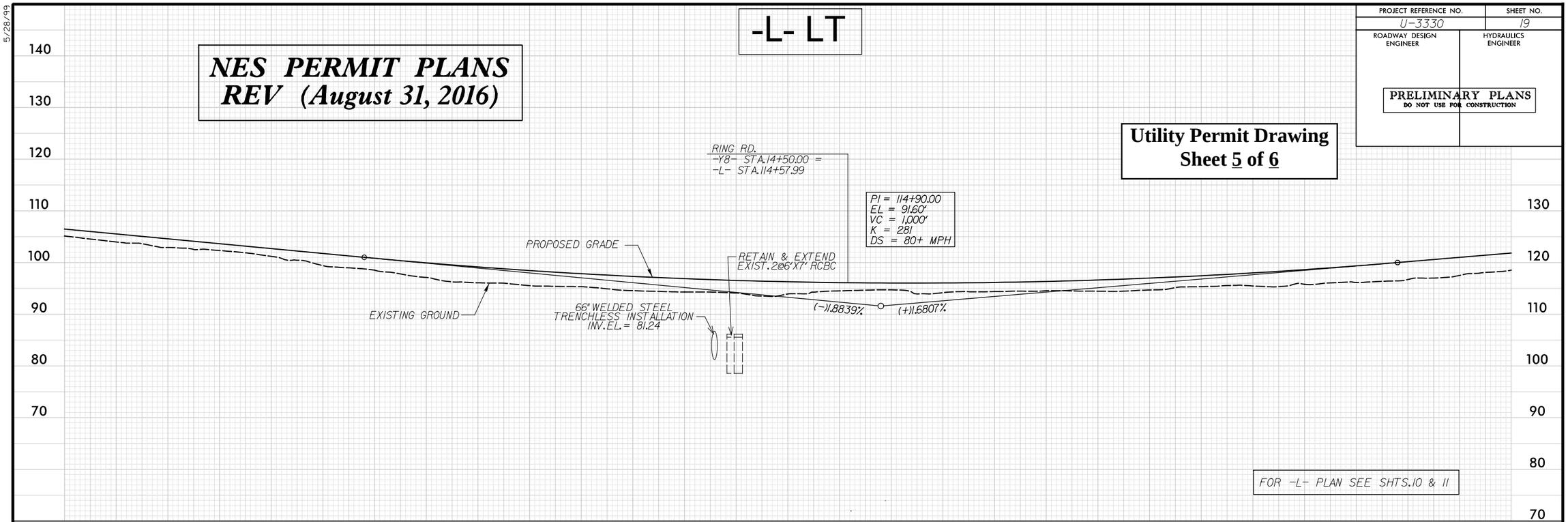
PROJECT REFERENCE NO.	SHEET NO.
U-3330	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NES PERMIT PLANS
REV (August 31, 2016)

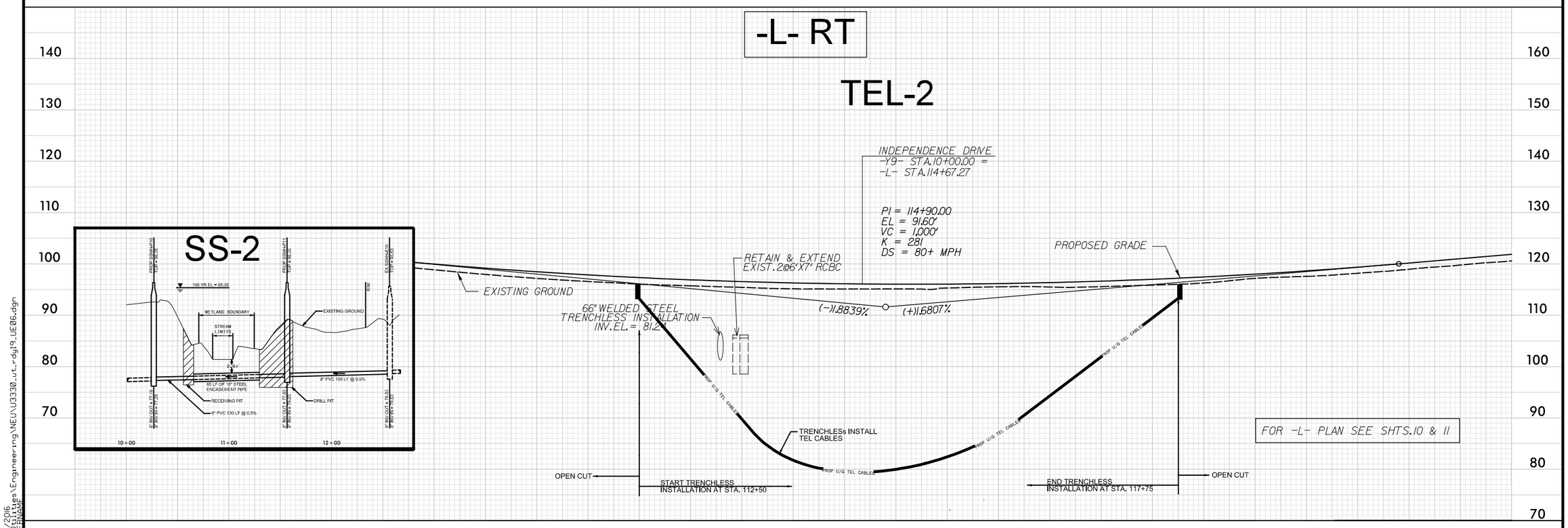
Utility Permit Drawing
Sheet 5 of 6

-L- LT



-L- RT

TEL-2



SS-2

5/28/99

8/31/2016
R:\Utilities\Engineering\NEU\U3330_ut_rdy19_UE06.dgn
USERNAME

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1 A	24" SS	60+13 to 60+63 -L-				950		950					
1 B	24" SS	60+21 to 60+45 -L-					261	261					
1 C	24" SS	60+42 to 60+76 -L-				732		732					
2 A	8"SS	113+31 to 114+00 -L-					1648	1648					
2 B	8"SS	113+85 to 144+08 -L-				350		350					
2 C	8"SS	114+71 to 114+96 -L-				334		334					
2 D	8"SS	114+82 to 115+09 -L-					243	243					
TOTAL:						2366	2152	4518					

Utility Permit Drawing
Sheet 6 of 6

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
PROJECT: 36596.1.2 (U-3330)

REVISED 8/31/2016

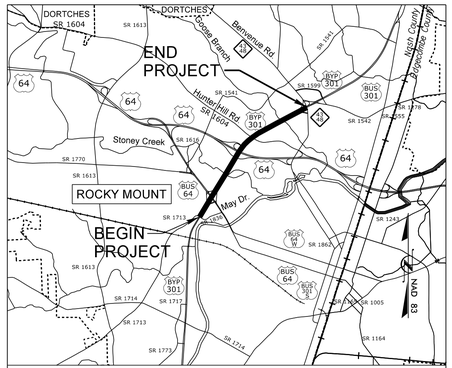
Rev. May 2006

09/08/99

TIP PROJECT: U-3330

CONTRACT: C203907

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

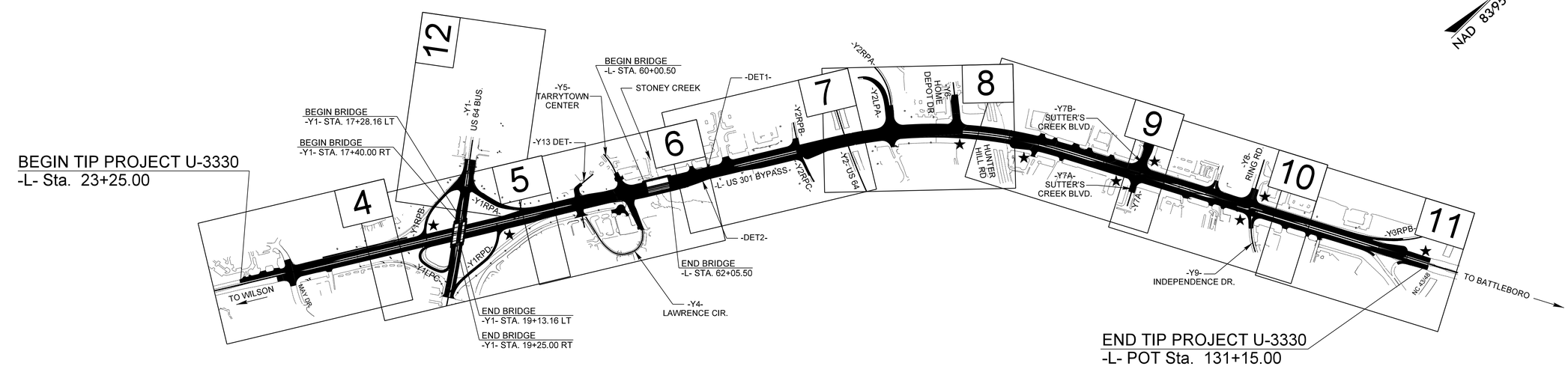
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3330	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
36596.1.2	STP – 0301 (28)	PE
36596.2.FR1	STP – 0301 (28)	R/W
36596.2.FRU1	STP – 0301 (28)	UTIL.
36596.3.FR1	STP – 0301 (28)	CONST.

PLFI PLANS

LOCATION: ***ROCKY MOUNT – US 301 BYPASS FROM SR 1836 (MAY DRIVE) TO NC 43–48 (BENVENUE ROAD) INTERCHANGE***

TYPE OF WORK: ***GRADING, DRAINAGE, PAVING, SIGNALS, NOISE WALL, STRUCTURES, AND CULVERT***



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF ROCKY MOUNT.

★ TRAFFIC SIGNAL

DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS FOR –Y1LPC–

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 38,580
ADT 2036 = 47,100
K = 10%
D = 55%
T = 4%*
V = 50 mph

*TTST 2% DUAL 2%
FUNCTIONAL CLASS.:URBAN ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U–3330	2.005 Miles
LENGTH STRUCTURE TIP PROJECT U–3330	0.039 Mile
TOTAL LENGTH TIP PROJECT U–3330	2.044 Miles

Prepared In the Office of:
CALYX ENGINEERS + CONSULTANTS
Formerly Mulkey Engineers & Consultants
NC License # F-1333

FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 21, 2014

LETTING DATE:
MAY 16, 2017

NCDOT CONTACT:

Steve A. Drum, PE
PROJECT ENGINEER

Michael A. Holt, PE
PROJECT DESIGN ENGINEER

Tatia L. White, PE, PLS
PROJECT ENGINEER – ROADWAY DESIGN

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

8/18/2016
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Fkeys

04/06/15

PROJECT REFERENCE NO.	SHEET NO.
U-3330	1-B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*)
- U/G Water Line LOS C (S.U.E*)
- U/G Water Line LOS D (S.U.E*)
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc.
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

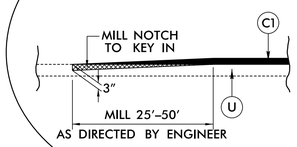
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PAVEMENT SCHEDULE

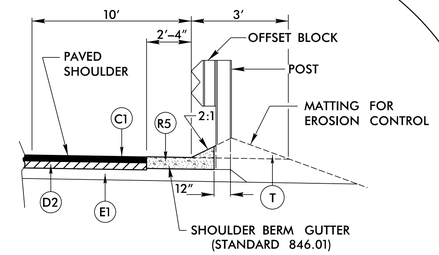
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D3	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D4	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E4	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
J1	PROP. 8" AGGEGRATE BASE COURSE
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YARD
R1	2'-6" CONCRETE CURB & GUTTER
R2	1'-6" CONCRETE CURB & GUTTER
R3	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R4	CONCRETE EXPRESSWAY GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING ASPHALT PAVEMENT, 3" DEPTH
V2	MILLING ASPHALT PAVEMENT, 1.5" DEPTH
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

MILLING DETAIL

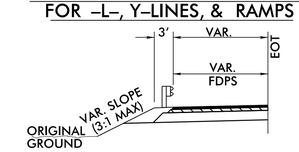


DETAIL SHOWING SHOULDER BERM GUTTER

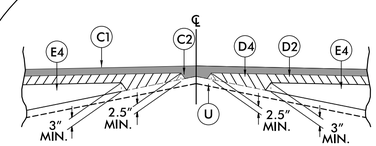


USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2
–L– STA. 58+78.00 TO STA. 59+75 +/– LT
–L– STA. 62+30 +/– TO STA. 62+55.00 LT
–L– STA. 62+30 +/– TO STA. 68+50.00 RT

SHOULDER WIDENING DETAILS FOR –L–, Y–LINES, & RAMPS

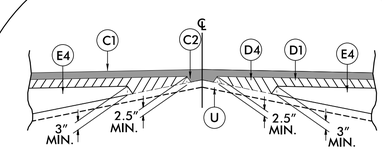


WEDGING DETAILS



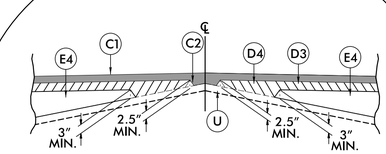
DETAIL SHOWING METHOD OF WEDGING NO. 1 FOR
–L– STA. 26+50.00 TO STA. 131+15.00

WEDGING DETAILS

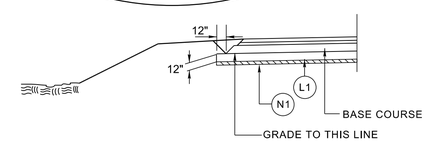


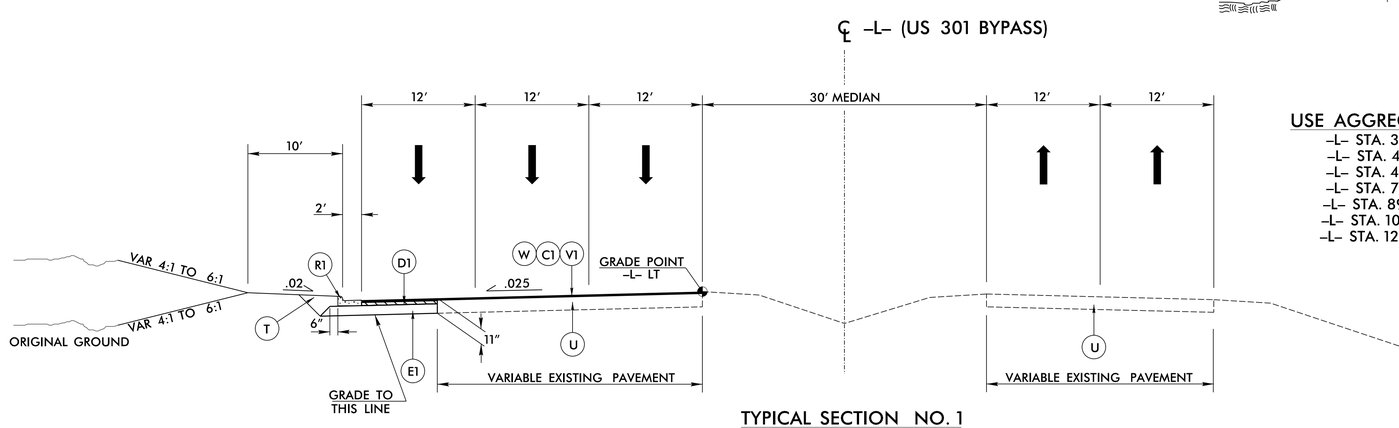
DETAIL SHOWING METHOD OF WEDGING NO. 2 FOR
–L– STA. 23+25.00 TO STA. 26+00.00
–Y1–, –Y1RPA–, –Y1RPB–, –Y1LPC–, –Y2RPA–, –Y2RPB–
–Y2RPC–, –Y2LPA–, –Y4–, –Y5–, –Y6–, –Y7A–,
–Y7B–, –Y8–, –Y9–

WEDGING DETAILS



DETAIL SHOWING METHOD OF WEDGING NO. 3 FOR
–Y1RPD–, –Y3RPB–





TYPICAL SECTION NO. 1

–L– STA. 23+25.00 TO 26+50.00
SEE PLANS FOR AUXILIARY LANE LOCATIONS

USE AGGREGATE SUBGRADE DETAIL

–L– STA. 34+25.00 TO 35+75.00
–L– STA. 41+25.00 TO 43+25.00
–L– STA. 46+75.00 TO 49+75.00
–L– STA. 73+25.00 TO 85+75.00
–L– STA. 89+25.00 TO 106+75.00
–L– STA. 109+75.00 TO 112+25.00
–L– STA. 123+75.00 TO 126+75.00

CALYX ENGINEERS + CONSULTANTS
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CALYXengineers.com
NC License # F-1333

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8/18/2016
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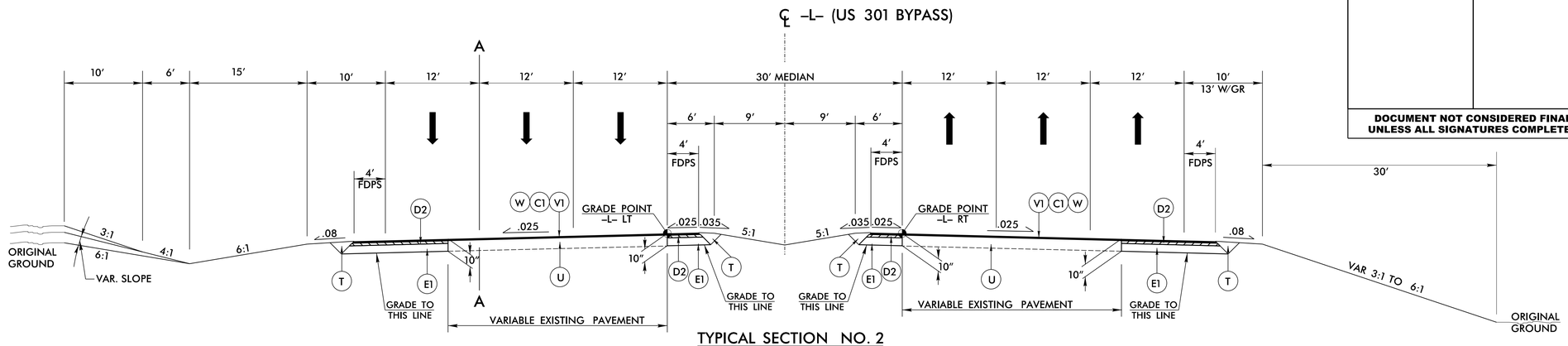
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

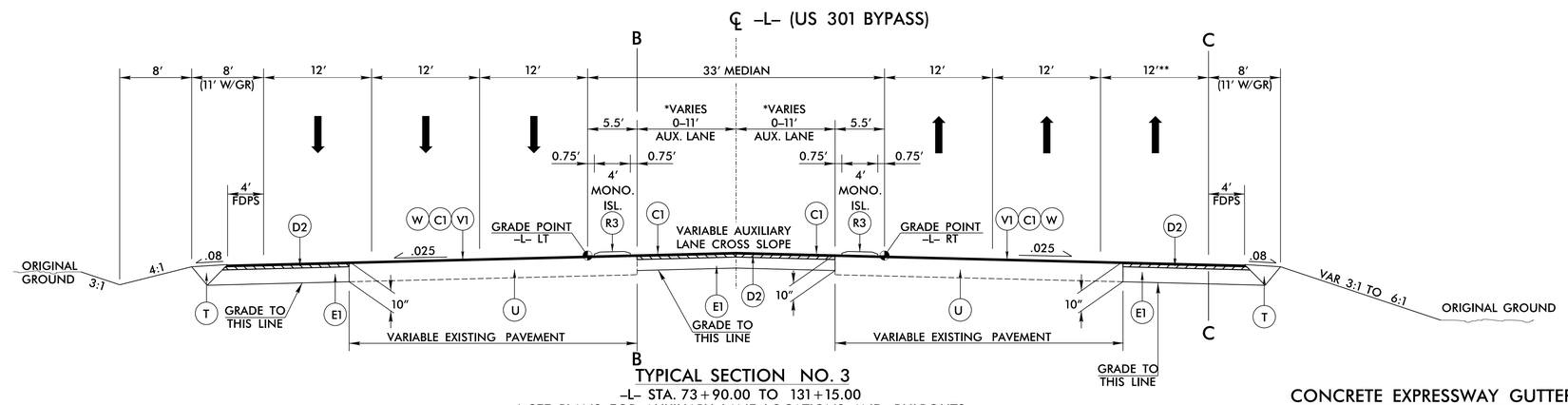
PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO. 2

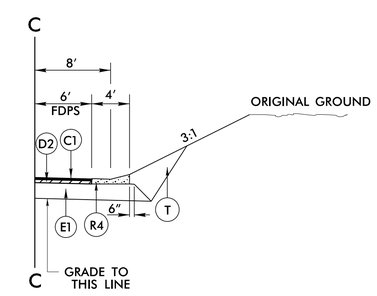
–L– STA. 26+50.00 TO 60+00.50 (BEGIN BRIDGE)
–L– STA. 62+05.50 (END BRIDGE) TO 73+90.00
SEE PLANS FOR AUXILIARY LANE LOCATIONS



TYPICAL SECTION NO. 3

–L– STA. 73+90.00 TO 131+15.00
* SEE PLANS FOR AUXILIARY LANE LOCATIONS AND BULBOUTS
– TRANSITION FROM 30′ TO 33′ MEDIAN STA. 73+90.00 TO 74+65.00
** 0′ FROM –L– STA. 125+38.00 TO 131+15.00

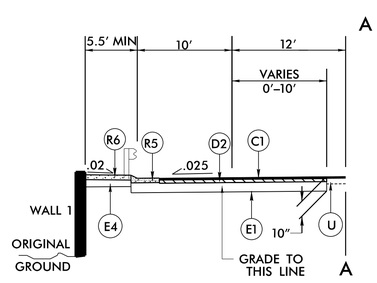
CONCRETE EXPRESSWAY GUTTER



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 3

–L– STA. 92+40.00 TO STA. 94+10.00 RT

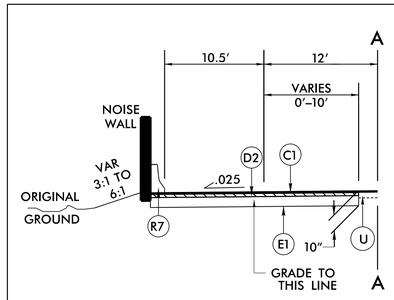
PROPOSED RETAINING WALL



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2

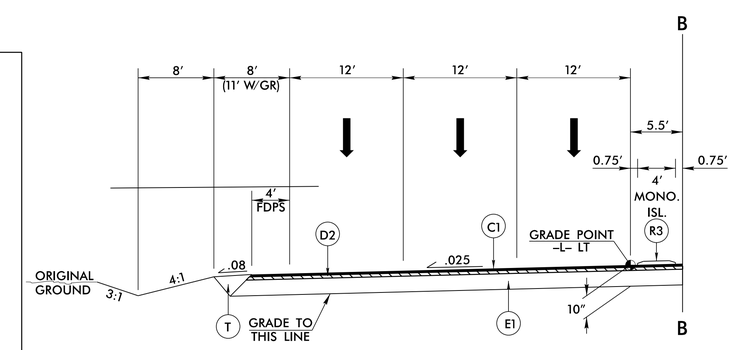
–L– STA. 58+80+/– TO STA. 60+00+/– LT

PROPOSED NOISE WALL



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2

–L– STA. 30+80.70 TO STA. 38+45.70 LT



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 3

–L– STA. 76+00.00 LT. TO 81+00.00 LT.
SEE PLANS FOR AUXILIARY LANE LOCATIONS

CALYX
ENGINEERS + CONSULTANTS
Formerly Mulkey Engineers & Consultants
7500 EAST INDEPENDENCE BOULEVARD, SUITE 100
CHARLOTTE, NC 28227
phone: 704.537.7300
CALYXengineers.com
NC License # F-1333

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8/18/2016
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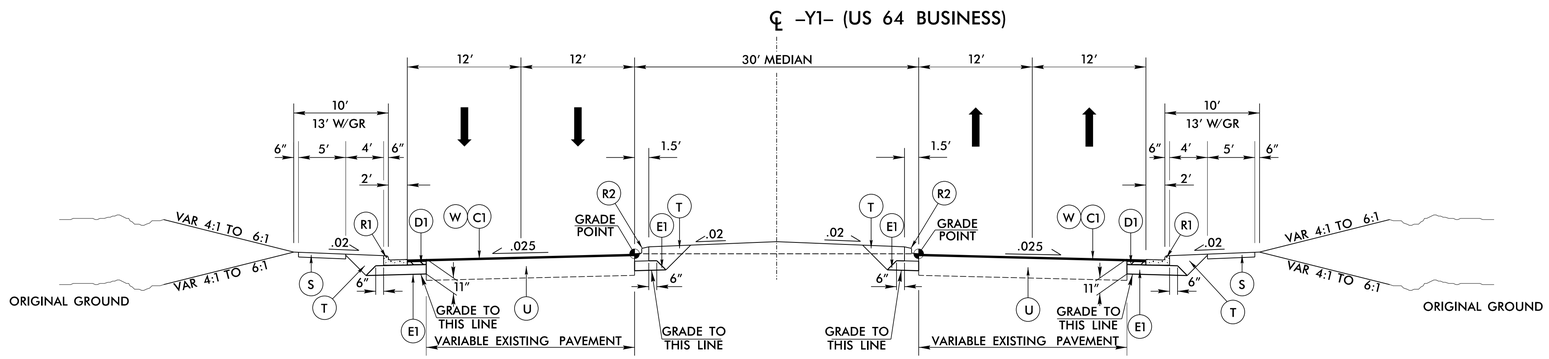
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

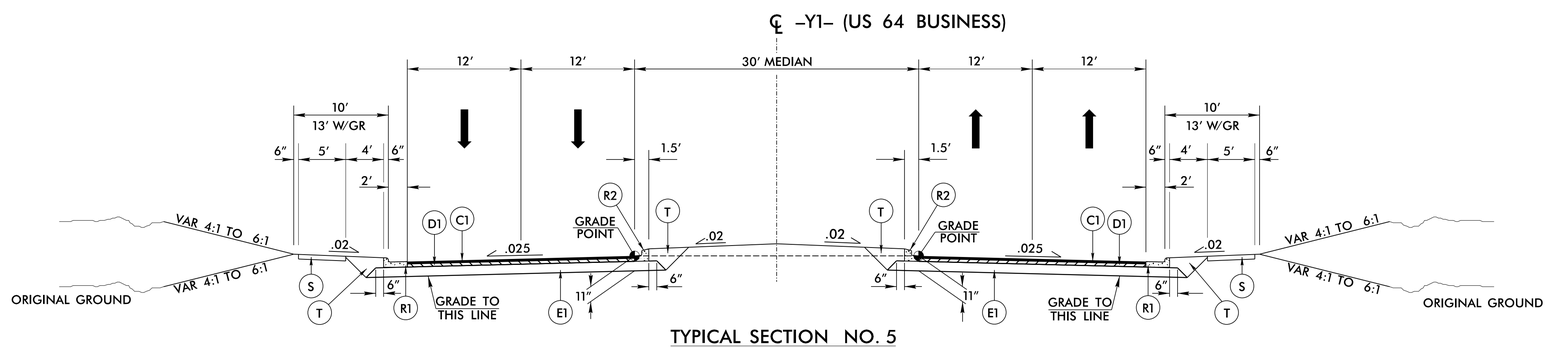
PRELIMINARY PAVEMENT SCHEDULE	
C1	3″ S9.5B
C2	VAR. S9.5B
C3	1.5″ S9.5B
D1	4″ I19.0B
D2	3″ I19.0B
D3	2.5″ I19.0B
D4	VAR. I19.0B
E1	4″ B25.0B
E2	5″ B25.0B
E3	5.5″ B25.0B
E4	VAR. B25.0B
J1	8″ ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2′-6″ CURB & GUTTER
R2	1′-6″ CURB & GUTTER
R3	5″ MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4″ CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4″ CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3″ MILLING
V2	1.5″ MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO. 4

–Y1– STA. 11+75.00 TO 15+00.00
–Y1– STA. 21+00.00 TO STA. 24+04.00
SEE PLANS FOR AUXILIARY LANE LOCATIONS
SEE PLANS FOR SIDEWALK LOCATIONS



TYPICAL SECTION NO. 5

–Y1– STA. 15+00.00 TO 17+40.00 (BEGIN BRIDGE RT)
–Y1– STA. 19+25.00 (END BRIDGE RT) TO STA. 21+00.00
SEE PLANS FOR AUXILIARY LANE LOCATIONS

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CALYXengineers.com
NC License # F-1333

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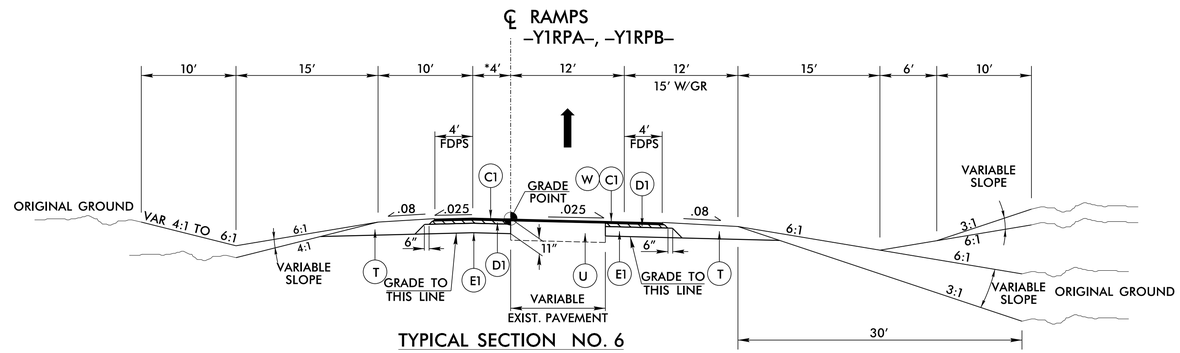
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

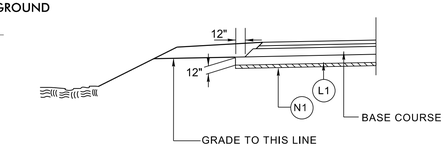
PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



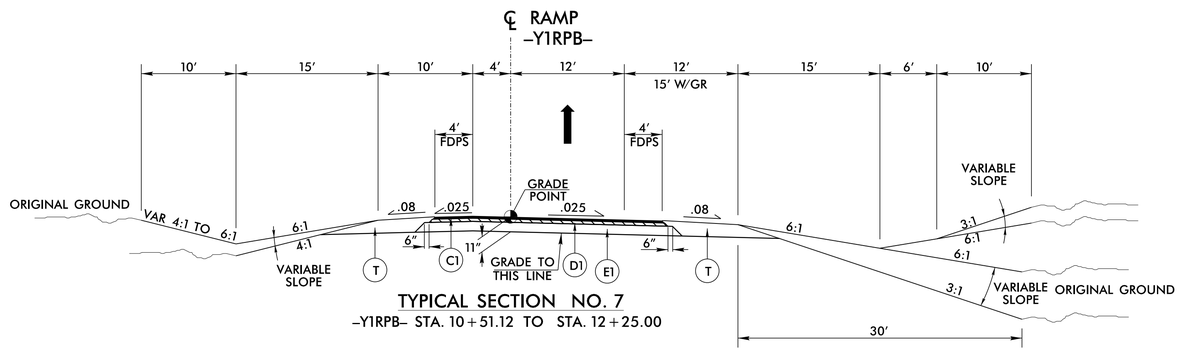
TYPICAL SECTION NO. 6

–Y1RPA– STA. 10+00.00 TO STA. 17+03.62
–Y1RPB– STA. 12+25.00 TO STA. 16+83.66
* VARIES FROM 6′ TO 24′ FOR –Y1RPA–



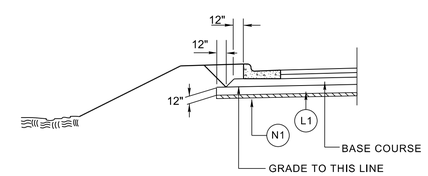
USE AGGREGATE SUBGRADE DETAIL

–Y1RPA– STA. 11+75.00 TO 15+25.00
–Y1RPB– STA. 11+00 TO 13+75.00



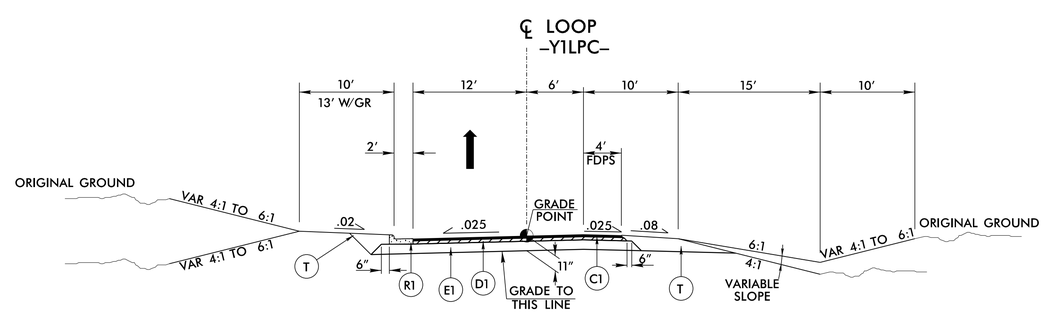
TYPICAL SECTION NO. 7

–Y1RPB– STA. 10+51.12 TO STA. 12+25.00



USE AGGREGATE SUBGRADE DETAIL

–Y1LPC– STA. 11+75.00 TO 15+00.00



TYPICAL SECTION NO. 8

–Y1LPC– STA. 10+00.00 TO STA. 15+34.11

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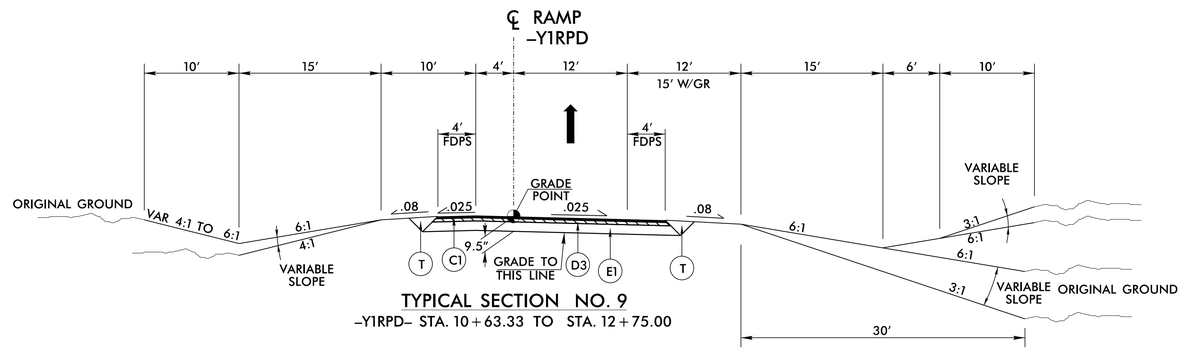
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

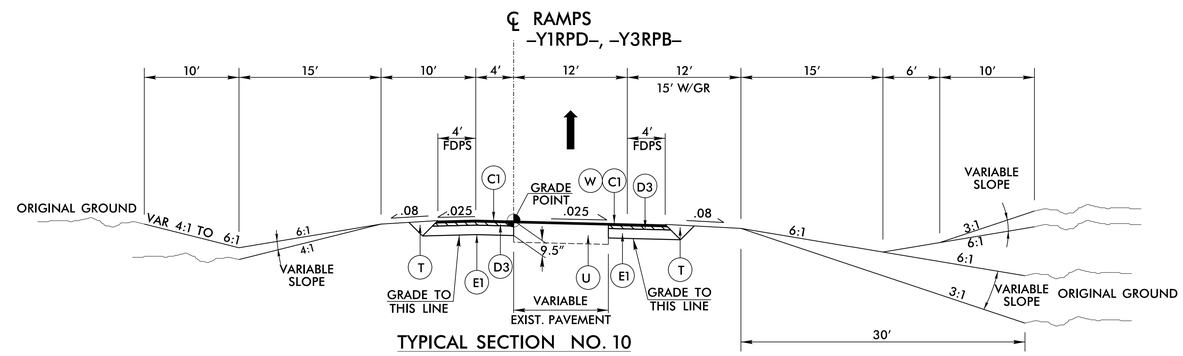
PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



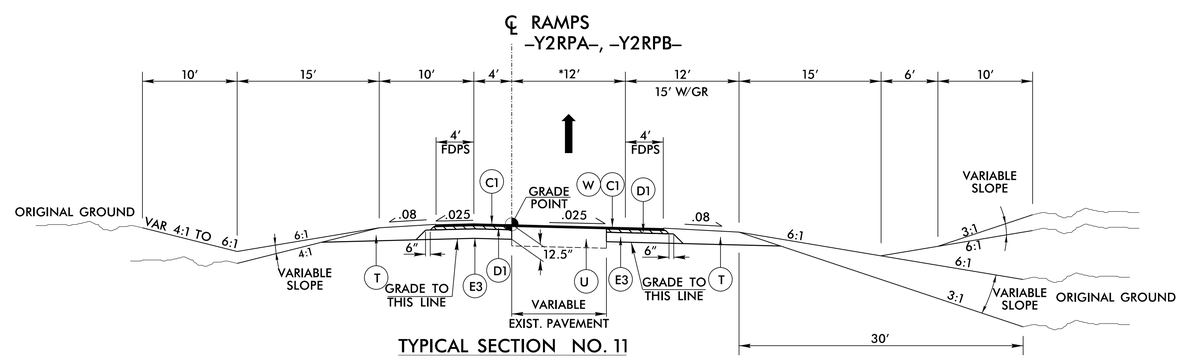
TYPICAL SECTION NO. 9

–Y1RPD– STA. 10+63.33 TO STA. 12+75.00



TYPICAL SECTION NO. 10

–Y1RPD– STA. 12+75.00 TO STA. 17+09.17
–Y3RPB– STA. 10+00.00 TO STA. 14+94.70



TYPICAL SECTION NO. 11

–Y2RPA– STA. 16+85.00 TO STA. 18+77.44 (LT)
–Y2RPB– STA. 11+43.77 TO STA. 12+09.59
* 30′ FOR –Y2RPB–

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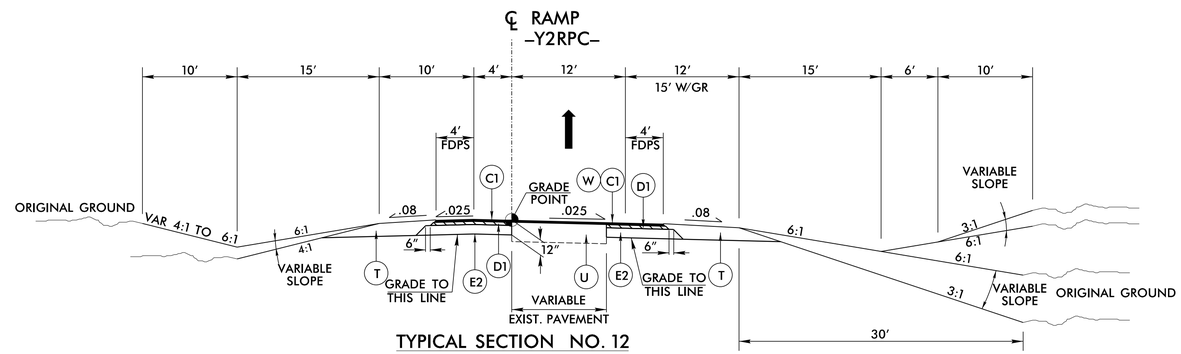
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

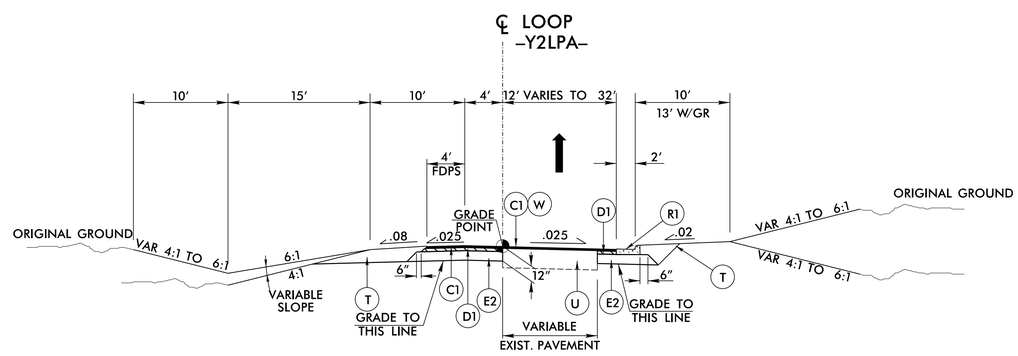
PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO. 12

–Y2RPC– STA. 10+70.00 TO STA. 12+47.46



TYPICAL SECTION NO. 13

–Y2LPA– STA. 10+50.03 TO STA. 16+13.30 (RT)

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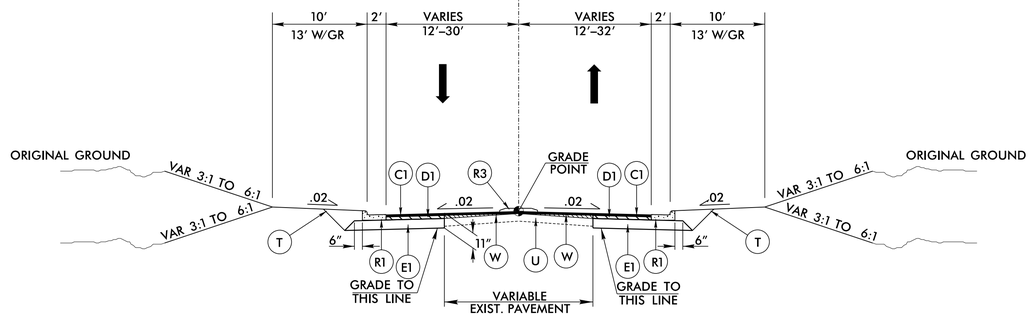
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

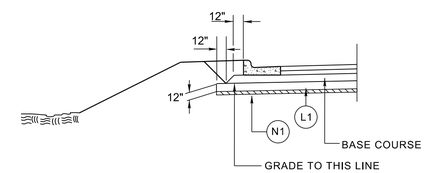
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

℄ –Y LINES–



TYPICAL SECTION NO. 14

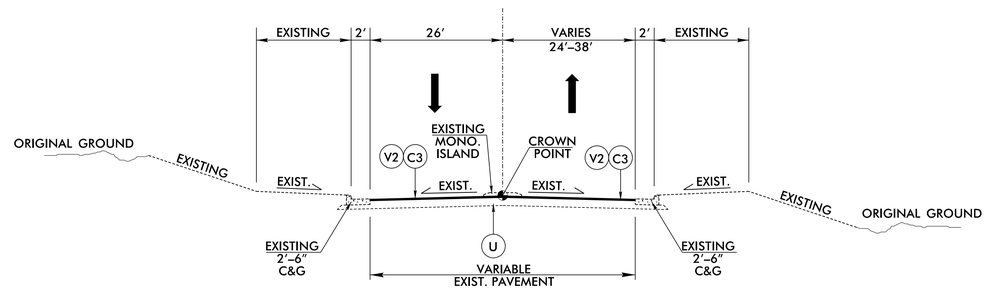
–Y4– STA. 10+52.20 TO STA. 13+58.00
–Y5– STA. 12+00.55 TO STA. 13+41.26
–Y6– STA. 12+75.05 TO STA. 13+75.65
–Y7A– STA. 10+63.50 TO STA. 11+04.84
–Y7B– STA. 10+68.04 TO STA. 12+86.47
–Y8– STA. 12+71.57 TO STA. 13+86.50
–Y9– STA. 10+55.76 TO STA. 11+72.39
SEE PLAN SHEETS FOR MONO ISLAND LOCATIONS



USE AGGREGATE SUBGRADE DETAIL

–Y7A– STA. 11+00.00 TO 11+04.84

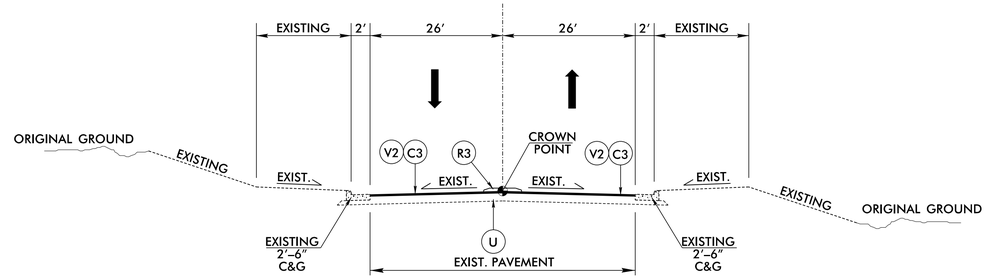
℄ –Y6–



TYPICAL SECTION NO. 15

–Y6– STA. 11+12.05 TO STA. 12+75.05

℄ –Y7A–



TYPICAL SECTION NO. 16

–Y7A– STA. 11+04.84 TO STA. 11+70.00

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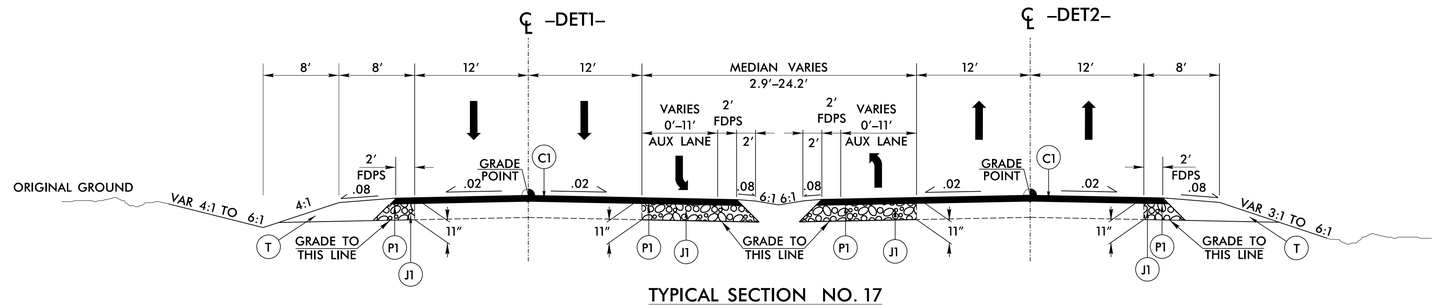
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-8
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

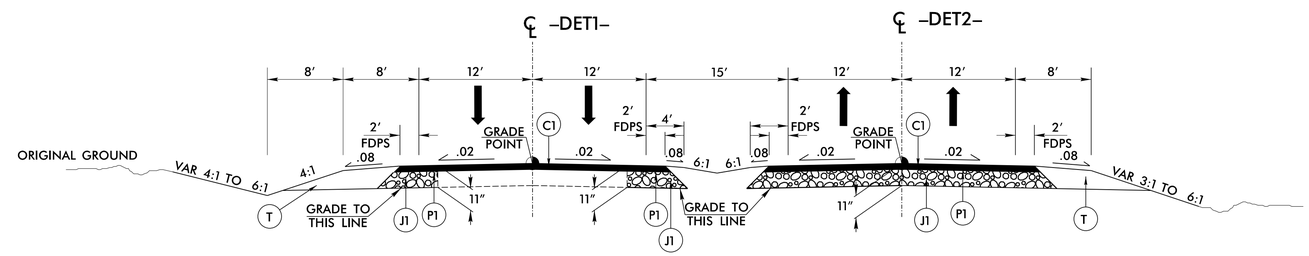
PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



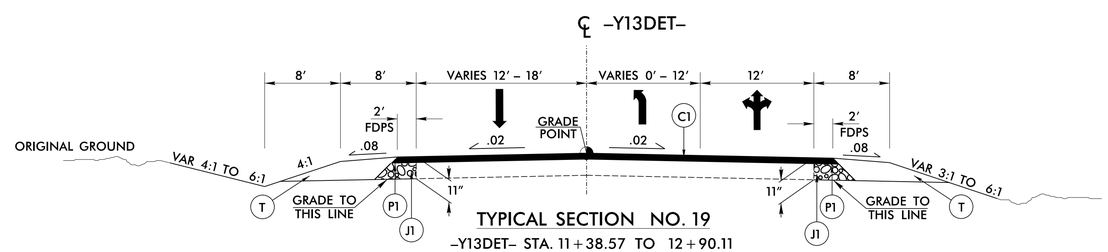
TYPICAL SECTION NO. 17

-DET1- STA. 10+96.78 TO 19+55.00
-DET1- STA. 24+97.56 TO 29+78.53
-DET2- STA. 10+96.78 TO 19+51.15
-DET2- STA. 25+00.00 TO 29+76.29
SEE PLANS FOR AUXILIARY LANE LOCATIONS



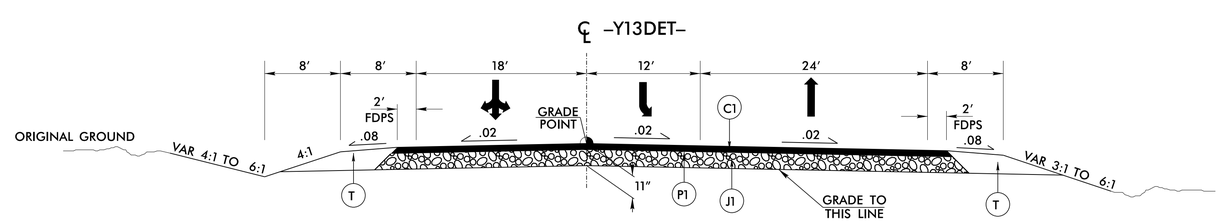
TYPICAL SECTION NO. 18

-DET1- STA. 19+55.00 TO 21+10.14 (BEGIN EXIST. BRIDGE)
-DET1- STA. 22+96.40 (END EXIST. BRIDGE) TO 24+97.56
-DET2- STA. 19+51.15 TO 21+09.27 (BEGIN BRIDGE)
-DET2- STA. 22+95.28 (END BRIDGE) TO 25+00.00



TYPICAL SECTION NO. 19

-Y13DET- STA. 11+38.57 TO 12+90.11



TYPICAL SECTION NO. 20

-Y13DET- STA. 13+67.08 TO 14+40.55

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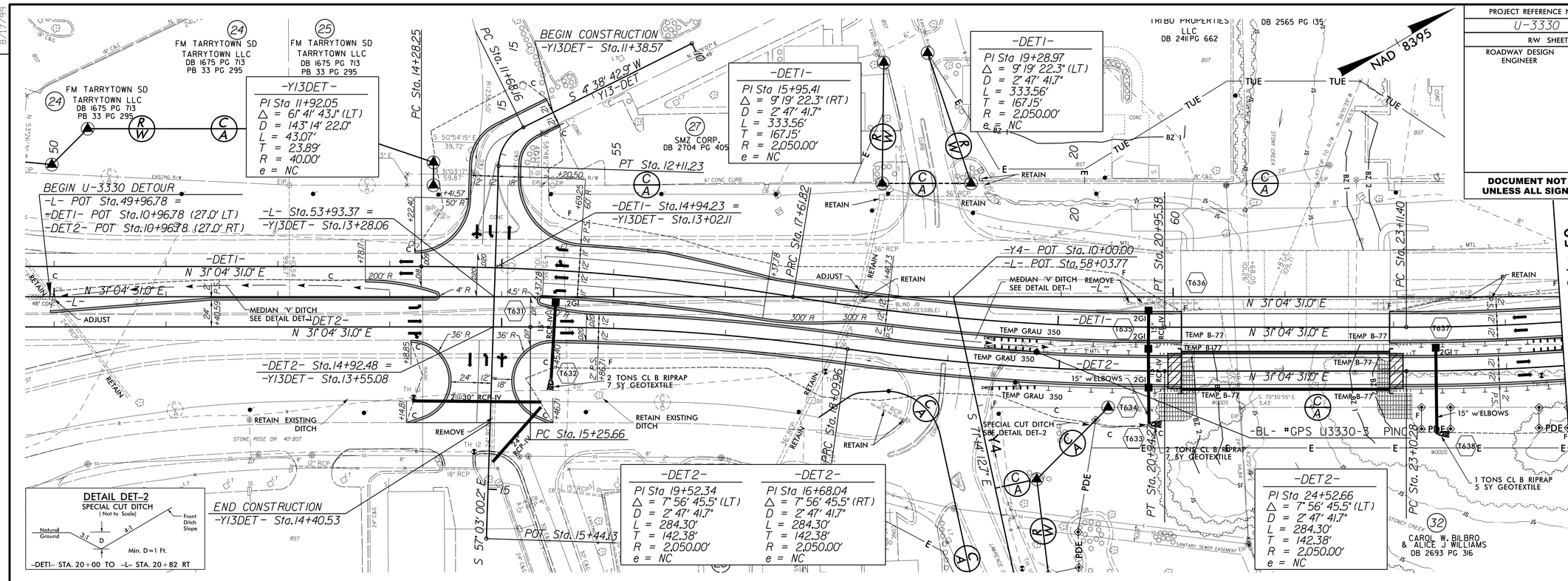
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2B-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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REVISIONS

8/17/99

8/31/2016
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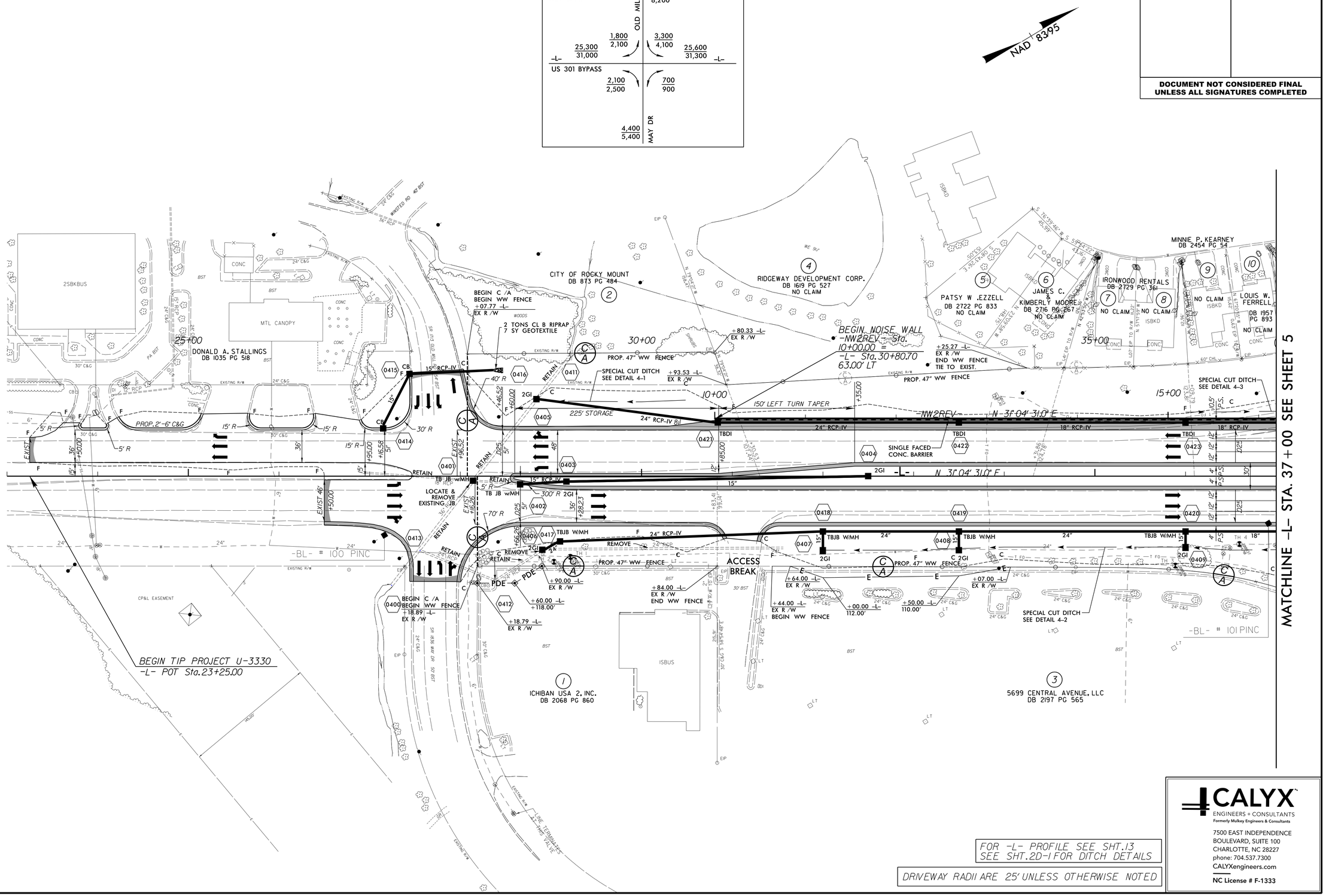
PROJECT REFERENCE NO.	SHEET NO.
U-3330	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

11/10/2015 : UPDATED PROPERTY OWNER NAME ON PARCELS 1 AND 3; REVISED PDE ON PARCEL 1; UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY AND ADDED "NO CLAIM" NOTE ON PARCELS 4 THROUGH 10.- SD

8/17/99



FOR -L- PROFILE SEE SHT.13
SEE SHT.2D-1 FOR DITCH DETAILS

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

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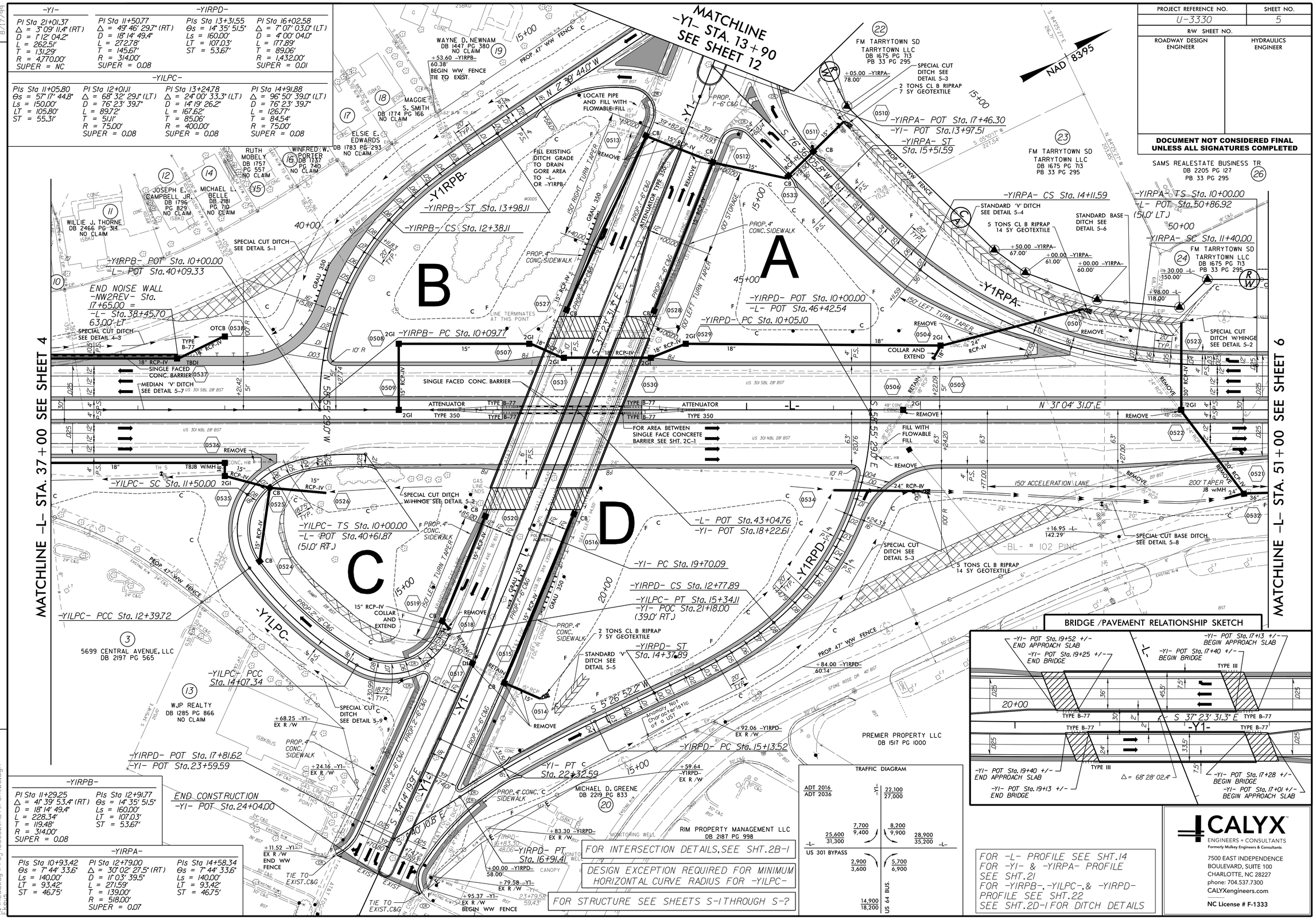
PROJECT REFERENCE NO.	SHEET NO.
U-3330	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99	:	REVISED PROPERTY LINES AND EXISTING C /A FOR PARCELS 3, 11 – 20, & 22 – 24; ELIMINATED CLAIMS FOR PARCELS 11 – 19 DUE TO EXISTING C /A; REVISED DEED REFERENCES FOR PARCELS 22 – 24.– SD
4/29/2015	:	UPDATED PROPERTY OWNER NAME ON PARCEL 13; UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY ON PARCEL 19. – SD
11/10/2015	:	



-Y1-

PI Sta 21+01.37		
Δ = 3° 09' 11.4" (RT)		
D = 1° 12' 04.2"		
L = 262.51'		
T = 131.29'		
R = 4,770.00'		
SUPER = NC		

-Y1RPD-

PI Sta 11+50.77	PIs Sta 13+31.55	PI Sta 16+02.58
Δ = 49° 46' 29.7" (RT)	Θs = 14° 35' 51.5"	Δ = 7° 07' 03.0" (LT)
D = 18° 14' 49.4"	Ls = 160.00'	D = 4° 00' 04.0"
L = 272.78'	LT = 107.03'	L = 177.89'
T = 145.67'	ST = 53.67'	T = 89.06'
R = 314.00'		R = 1,432.00'
SUPER = 0.08		SUPER = 0.01

-Y1LPC-

PIs Sta 11+05.80	PI Sta 12+01.11	PI Sta 13+24.78	PI Sta 14+91.88
Θs = 57° 17' 44.8"	Δ = 68° 32' 29.1" (LT)	Δ = 24° 00' 33.3" (LT)	Δ = 96° 50' 39.0" (LT)
Ls = 150.00'	D = 76° 23' 39.7"	D = 14° 19' 26.2"	D = 76° 23' 39.7"
LT = 105.80'	L = 89.72'	L = 167.62'	L = 126.77'
ST = 55.31'	T = 51.1'	T = 85.06'	T = 84.54'
	R = 75.00'	R = 400.00'	R = 75.00'
	SUPER = 0.08	SUPER = 0.08	SUPER = 0.08

-YIRPB-

PI Sta 11+29.25	PIs Sta 12+91.77
Δ = 41° 39' 53.4" (RT)	Θs = 14° 35' 51.5"
D = 18° 14' 49.4"	Ls = 160.00'
L = 228.34'	LT = 107.03'
T = 119.48'	ST = 53.67'
R = 314.00'	
SUPER = 0.08	

-YIRPA-

PIs Sta 10+93.42	PI Sta 12+79.00	PIs Sta 14+58.34
Θs = 7° 44' 33.6"	Δ = 30° 02' 27.5" (RT)	Θs = 7° 44' 33.6"
Ls = 140.00'	D = 11° 03' 39.5"	Ls = 140.00'
LT = 93.42'	L = 271.59'	LT = 93.42'
ST = 46.75'	T = 139.00'	ST = 46.75'
	R = 518.00'	
	SUPER = 0.07	

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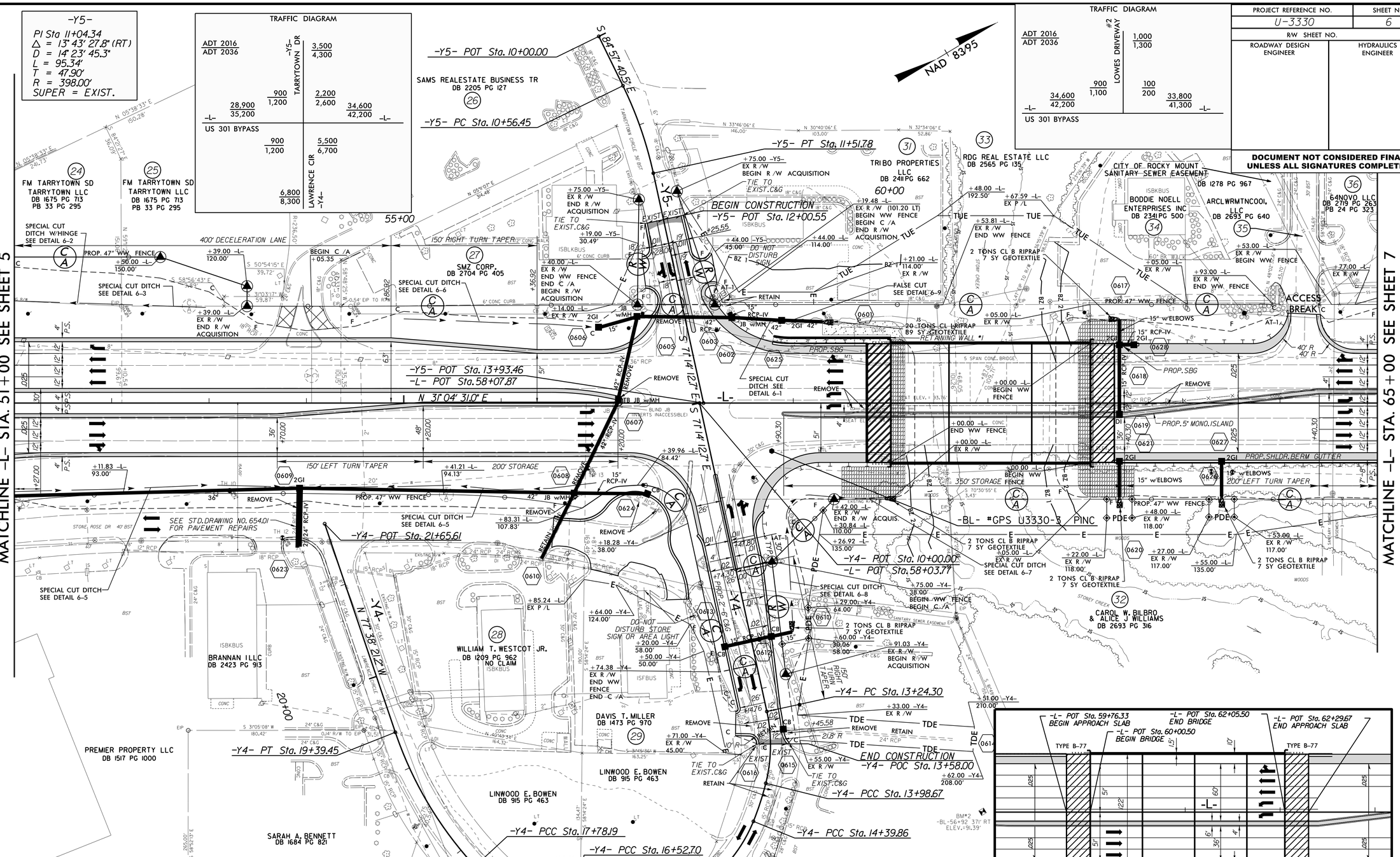
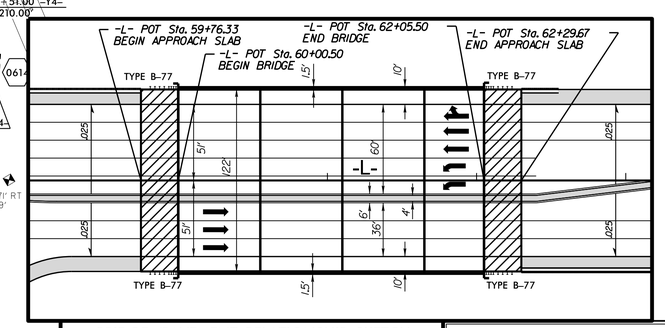
PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





BRIDGE /PAVEMENT RELATIONSHIP SKETCH

-Y4-

PI Sta 13+62.15	PI Sta 14+19.30	PI Sta 14+90.10
Δ = 26° 18' 11.2" (RT)	Δ = 8° 01' 41.2" (RT)	Δ = 37° 01' 54.5" (RT)
D = 35° 22' 04.0"	D = 19° 29' 18.1"	D = 38° 11' 49.9"
L = 74.37'	L = 41.19'	L = 96.95'
T = 37.85'	T = 20.63'	T = 50.24'
R = 162.00'	R = 294.00'	R = 150.00'
SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.

PI Sta 15+69.16	PI Sta 16+26.55	PI Sta 17+19.38	PI Sta 18+60.02
Δ = 26° 01' 08.6" (RT)	Δ = 4° 16' 53.1" (RT)	Δ = 47° 56' 10.5" (RT)	Δ = 23° 59' 52.5" (RT)
D = 40° 55' 32.0"	D = 8° 11' 06.4"	D = 38° 11' 49.9"	D = 14° 52' 55.3"
L = 63.58'	L = 52.31'	L = 125.50'	L = 161.25'
T = 32.35'	T = 26.17'	T = 66.68'	T = 81.83'
R = 140.00'	R = 700.00'	R = 150.00'	R = 385.00'
SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.

FOR STRUCTURE SEE SHEETS S-1 THROUGH S-?

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.15
FOR -Y4- & -Y5- PROFILE SEE SHT.24
SEE SHT.2D-1 FOR DITCH DETAILS
SEE SHT.2B-2 FOR INTERSECTION DETAILS

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REVISIONS

4/29/2015	:	REVISED NAME AND DEED REFERENCES FOR PARCELS 25 & 27, REVISED PROPERTY LINES AND EXISTING C/A FOR PARCELS 24 & 26, PARCEL 28 – REMOVED THE TEMPORARY CONSTRUCTION EASEMENT THEREBY ELIMINATED CLAIM, ADDED A STATION LABEL FOR PROPOSED CONTROL OF ACCESS LIMIT ON PARCEL 26, ADDED "DO NOT DISTURB SIGN" ON PARCEL 31. – SD
11/10/2015	:	RIGHT OF WAY AND ADDED "DO NOT DISTURB SIGN OR AREA LIGHT" NOTE ON PARCEL 29, REVISED PROPOSED
8/26/2016	:	REVISED TCE FROM -L- STA. 59+26.92 TO STA. 65+00.00 RT. ON PARCEL 32. – PJS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-3330	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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REVISIONS

4/29/2015	:	REVISED NAME AND DED REFERENCE FOR PARCELS 32, 35 & 36. – SD
11/10/2015	:	ADDED AN ACCESS POINT FROM –L– STA. 67+08.00 TO STA. 67+68.00 RT. ON PARCEL 32; ADDED A STATION LABEL FOR PROPOSED C/A LIMIT ON PARCELS 32 AND 37; UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY ON PARCELS 32, 37 AND 38. – SD
8/26/2016	:	REVISED TCE FROM –L– STA. 65+00.00 TO STA. 65+27.00 RT. ON PARCEL 32. – PJS

8/17/99

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

LOWES DRIVEWAY #1: 7,800 / 9,500; 4,200 / 5,200; 3,500 / 4,300

–L– 33,800 / 41,300; 33,100 / 40,300 –L–

US 301 BYPASS

–L–

PIs Sta 77+22.10	PI Sta 87+38.46
Θs = 1° 07' 29.7"	Δ = 28° 23' 35.4" (RT)
Ls = 150.00'	D = 1° 29' 59.6"
LT = 100.00'	L = 1,893.02'
ST = 50.00'	T = 966.37'
	R = 3,820.00'
	SUPER = 0.03
	RO = 150.00'

PIs Sta 97+15.11
Θs = 1° 07' 29.7"
Ls = 150.00'
LT = 100.00'
ST = 50.00'

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

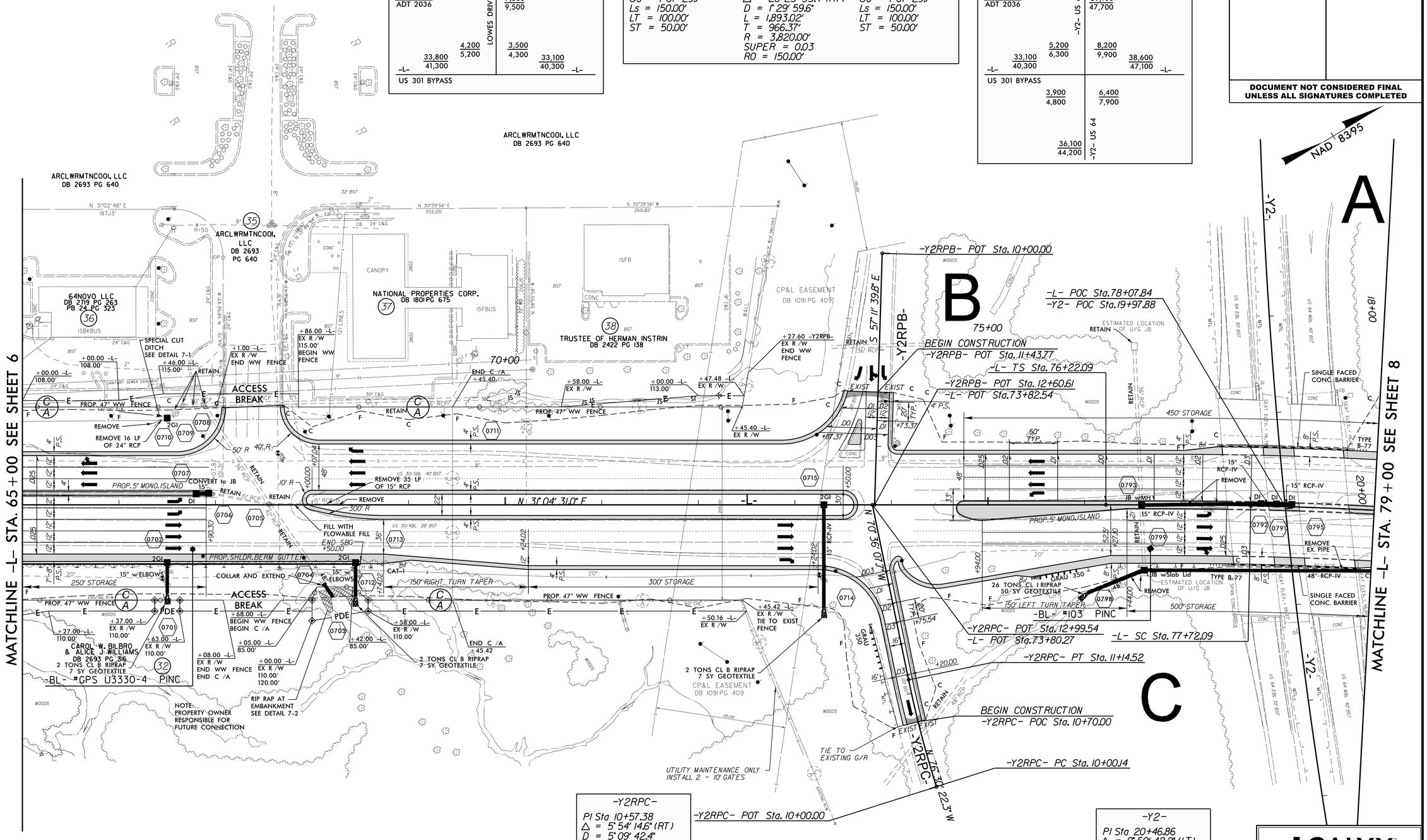
–Y2– US 64: 39,100 / 47,700; 5,200 / 6,300; 8,200 / 9,900; 38,600 / 47,100

–L– 33,100 / 40,300 –L–

US 301 BYPASS

3,900 / 4,800; 6,400 / 7,900

–Y2– US 64: 36,100 / 44,200



-Y2RPC-

PI Sta 10+57.38
Δ = 5° 54' 14.6" (RT)
D = 5° 09' 42.4"
L = 114.38'
T = 57.24'
R = 1,110.00'
SUPER = EXIST.

TRANSITION MEDIAN FROM 30' TO 33'
-L- STA. 73+90.00 TO STA. 74+65.00

-Y2-

PI Sta 20+46.86
Δ = 9° 50' 42.2" (LT)
D = 1° 00' 00.0"
L = 984.51'
T = 493.47'
R = 5,729.58'

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 16
FOR -Y2RPB- & -Y2RPC- PROFILE SEE SHT. 23
SEE SHT. 2D-1 FOR DITCH DETAILS
SEE SHT. 2B-2 FOR INTERSECTION DETAILS

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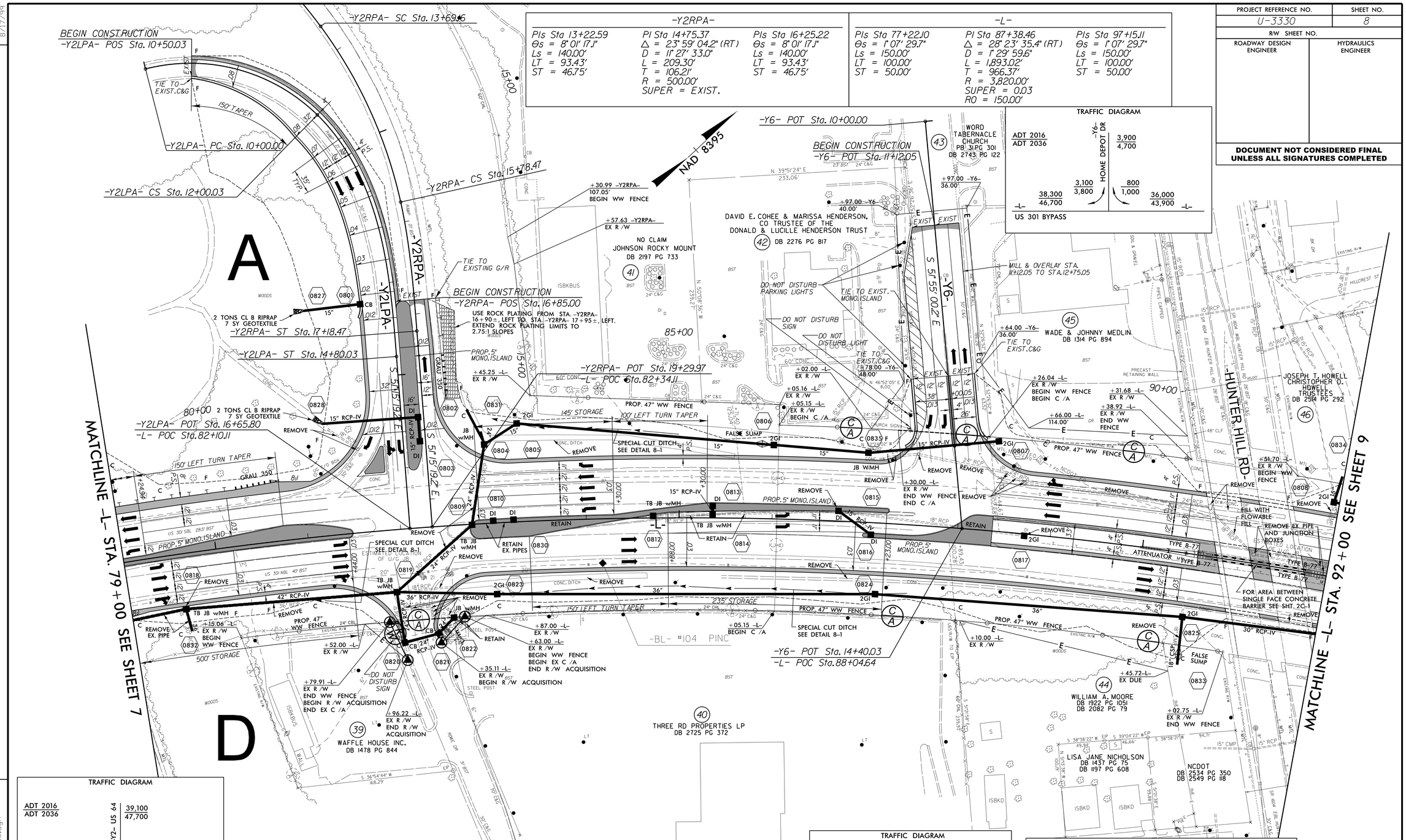
PROJECT REFERENCE NO.	SHEET NO.
U-3330	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

03/2/2015 - Parcels 42, 43; Added Property Owner Name and Deed Book Reference to Parcel No. 43. Extended Property Line for Parcels 42 and 43.
11/10/2015 - UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY ON PARCELS 39 THROUGH 42; REVISED PROPOSED RIGHT OF WAY AND ADDED "DO NOT DISTURB SIGN" ON PARCEL 39; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 40; ADDED A STATION LABEL FOR PROPOSED C/A LIMIT ON PARCELS 40 AND 42; ADDED "NO CLAIM" NOTE ON PARCEL 41; ADDED "DO NOT DISTURB PARKING LIGHTS" NOTE ON PARCEL 42; UPDATED PROPERTY OWNER NAME ON PARCEL 45. - SD

8/17/99



-Y2RPA-		
PIs Sta 13+22.59	PI Sta 14+75.37	PIs Sta 16+25.22
Θs = 8° 01' 17.1"	Δ = 23° 59' 04.2" (RT)	Θs = 8° 01' 17.1"
Ls = 140.00'	D = 11° 27' 33.0"	Ls = 140.00'
LT = 93.43'	L = 209.30'	LT = 93.43'
ST = 46.75'	T = 106.21'	ST = 46.75'
	R = 500.00'	
	SUPER = EXIST.	

-L-		
PIs Sta 77+22.10	PI Sta 87+38.46	PIs Sta 97+15.11
Θs = 1° 07' 29.7"	Δ = 28° 23' 35.4" (RT)	Θs = 1° 07' 29.7"
Ls = 150.00'	D = 1° 29' 59.6"	Ls = 150.00'
LT = 100.00'	L = 1,893.02'	LT = 100.00'
ST = 50.00'	T = 966.37'	ST = 50.00'
	R = 3,820.00'	
	SUPER = 0.03	
	R0 = 150.00'	

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

US 301 BYPASS (-L-): 38,300 / 46,700

HOME DEPOT DR (-Y6-): 3,100 / 3,800; 800 / 1,000; 3,900 / 4,700; 36,000 / 43,900

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

US 301 BYPASS (-L-): 39,100 / 47,700; 33,100 / 40,300

-Y2- US 64: 5,200 / 6,300; 8,200 / 9,900; 3,900 / 4,800; 6,400 / 7,900; 36,100 / 44,200; 38,600 / 47,100

-Y2LPA-	
PI Sta 11+09.82	PIs Sta 12+98.20
Δ = 58° 46' 25.4" (RT)	Θs = 41° 08' 07.6"
D = 29° 22' 56.8"	Ls = 280.00'
L = 200.03'	LT = 191.97'
T = 109.82'	ST = 98.17'
R = 195.00'	
SUPER = 0.08	

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

US 301 BYPASS (-L-): 38,600 / 47,100; 38,300 / 46,700

ROWE DR: 600 / 800; 300 / 400; 900 / 1,200

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.17
FOR -Y2LPA- & -Y2RPA- PROFILE SEE SHT.23
FOR -Y6- PROFILE SEE SHT.24
SEE SHT.2D-1 FOR DITCH DETAILS
SEE SHT.2B-3 FOR INTERSECTION DETAILS

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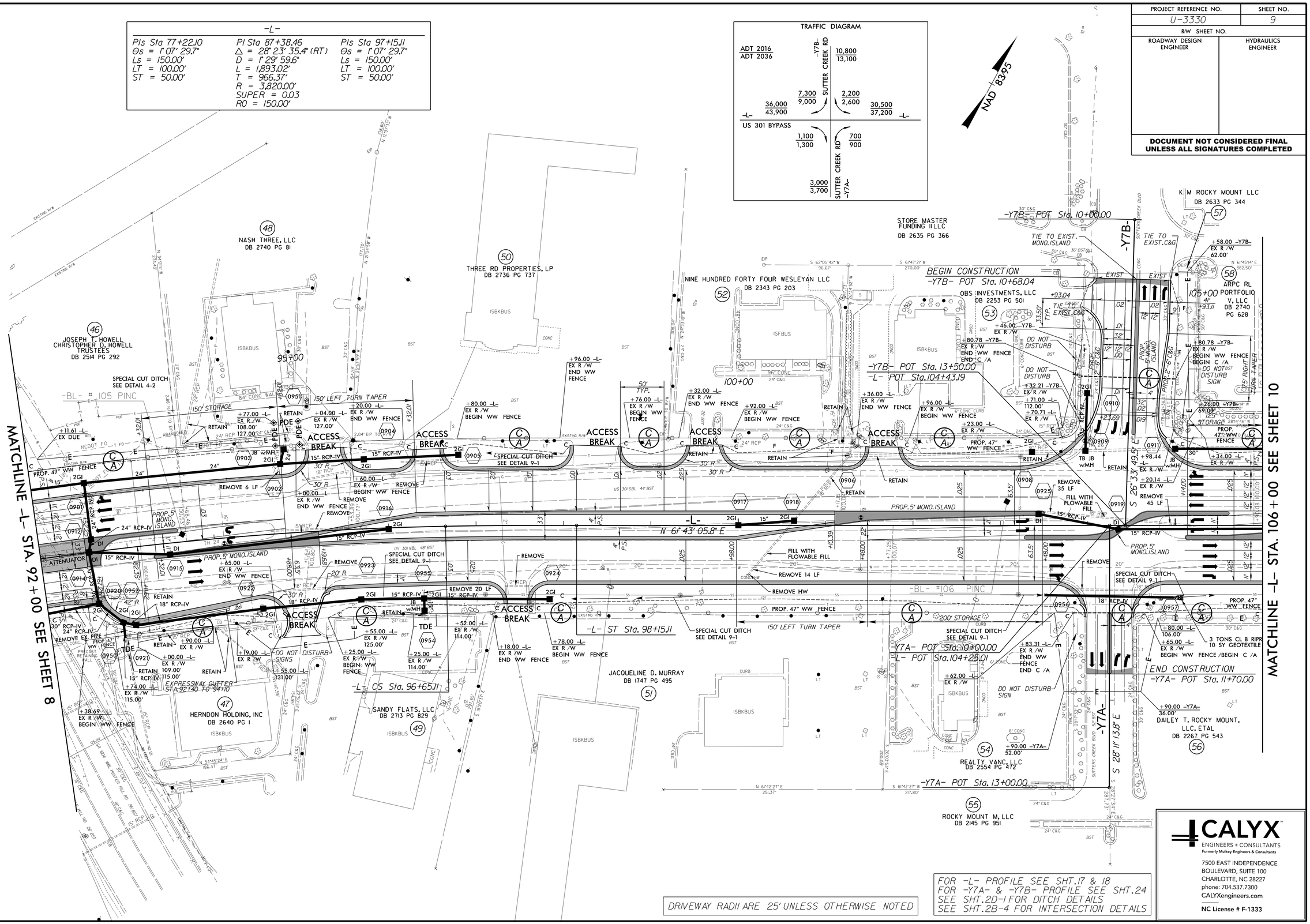
PROJECT REFERENCE NO.	SHEET NO.
U-3330	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

11/02/2015 : ADDED "DO NOT DISTURB SIGNS" NOTE ON PARCEL 47 AND 49; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCELS 48 THROUGH 50, 53, 54 AND 58; ADDED "DO NOT DISTURB" NOTE ON PARCEL 53; ADDED PROPERTY OWNER NAME ON PARCEL 55; UPDATED PROPERTY OWNER NAME ON PARCEL 56. - SD

12/04/2015 : ADDED "DO NOT DISTURB SIGN" NOTE ON PARCELS 55 AND 57. - PJS



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PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

11/10/2015 : UPDATED PROPERTY OWNER NAME ON PARCEL 56; UPDATED DEED REFERENCE ON PARCEL 58; ADDED "DO NOT DISTURB AREA LIGHT" ON PARCEL 62; REVISED PDE ON PARCELS 64, 67 AND 68; REVISED TCE ON PARCEL 67; CHANGED PDE TO TCE AND ADDED "DO NOT DISTURB SIGN" NOTE ON PARCEL 69; UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY AND ADDED "NO CLAIM" NOTE ON PARCEL 70. - SD

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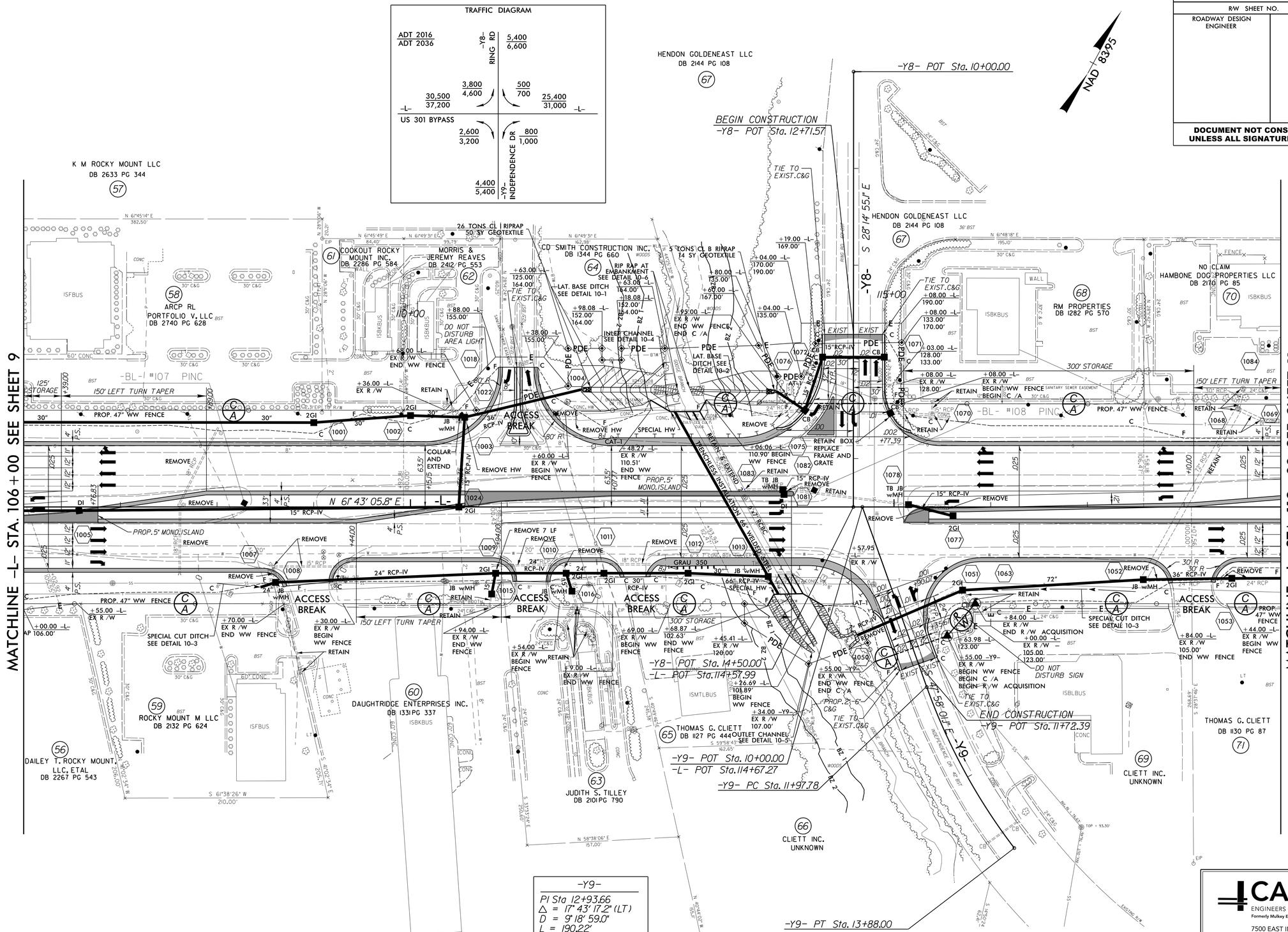

FOR CULVERT SEE SHEETS C-1 THROUGH C-?

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 18 & 19
FOR -Y8- & -Y9- PROFILE SEE SHT. 25
SEE SHT. 2D-1 FOR DITCH DETAILS
SEE SHT. 2B-4 FOR INTERSECTION DETAILS

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PROJECT REFERENCE NO.	SHEET NO.
U-3330	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

11/10/2015 : UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY AND ADDED "NO CLAIM" NOTE ON PARCELS 70, 72, 74 AND 75. - SD

8/17/99

-Y3RPB-

PIs Sta 10+60.00	PI Sta 12+68.57	PI Sta 16+13.10
Θs = 2° 04' 45.4"	Δ = 16° 23' 21.1" (LT)	Δ = 19° 53' 57.1" (LT)
Ls = 90.00'	D = 4° 37' 14.3"	D = 5° 58' 05.9"
LT = 60.00'	L = 354.70'	L = 333.41'
ST = 30.00'	T = 178.57'	T = 168.40'
	R = 1,240.00'	R = 960.00'
	SUPER = 0.045	

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

NC 43/48: 22,800 / 27,800

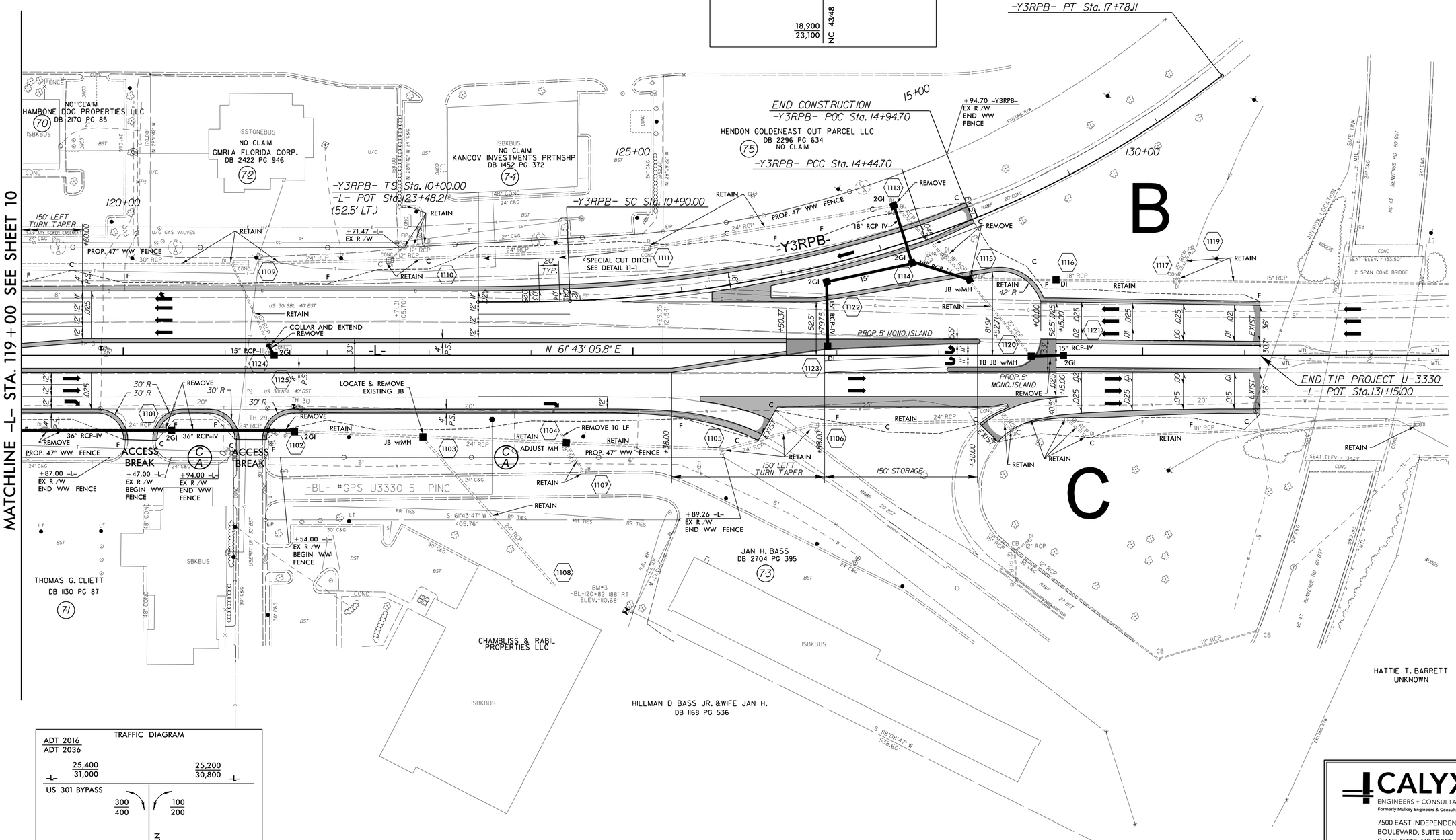
-L- 25,200 / 30,800 — 3,300 / 4,100 — 1,800 / 2,100 — 24,100 / 29,300 -L-

US 301 BYPASS: 400 / 500 — 700 / 900

NC 43/48: 18,900 / 23,100

NAD 83/95

MATCHLINE -L- STA. 119+00 SEE SHEET 10



TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

-L- 25,400 / 31,000 — 25,200 / 30,800 -L-

US 301 BYPASS: 300 / 400 — 100 / 200

LIBERTY LN: 400 / 600

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 19 & 20
FOR -Y3RPB- PROFILE SEE SHT. 23
SEE SHT. 2D-1 FOR DITCH DETAILS

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PROJECT REFERENCE NO.	SHEET NO.
U-3330	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

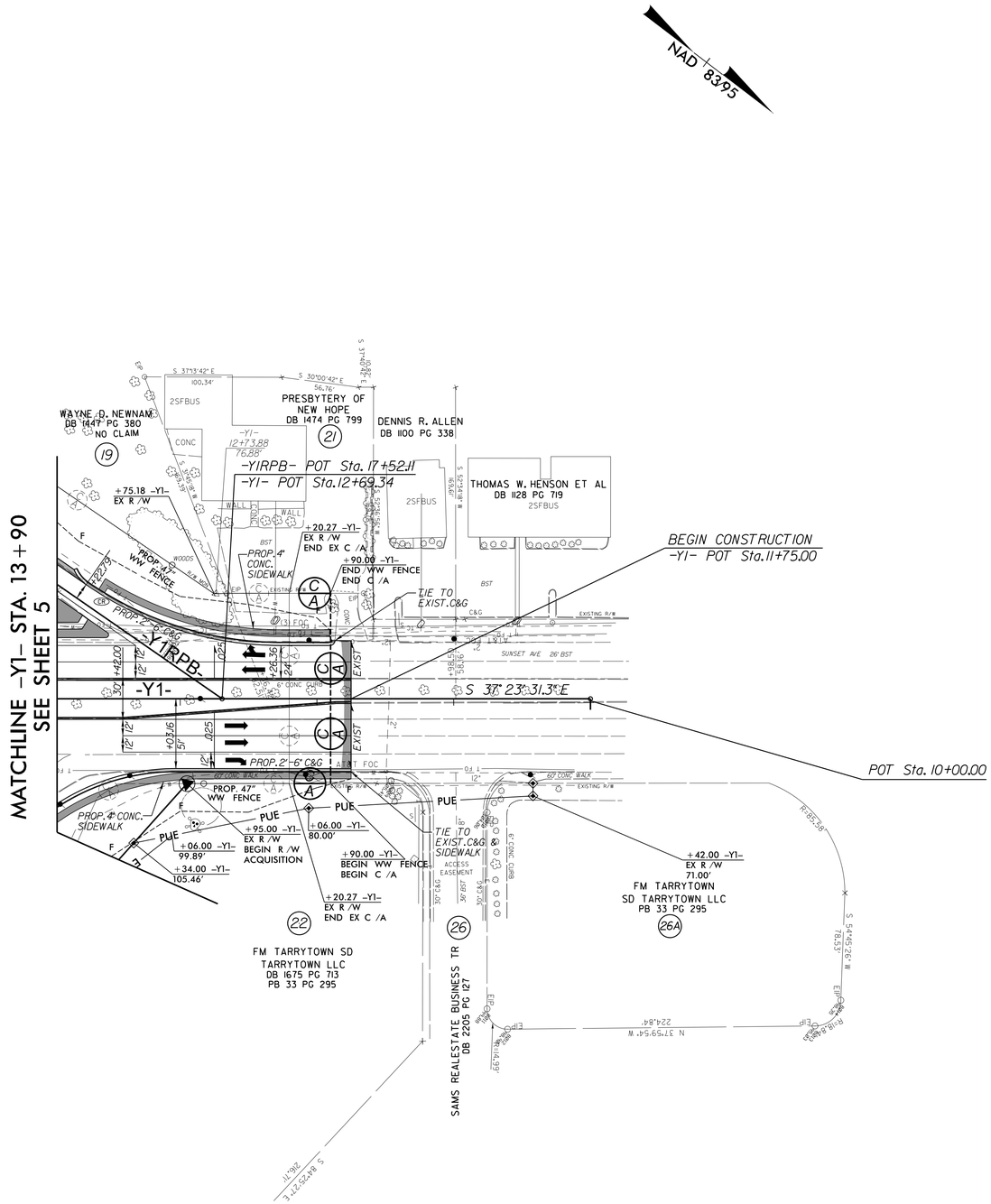
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

4/29/2015 : REVISED PROPERTY LINES AND EXISTING C /A FOR PARCEL 19 DUE TO EXISTING C /A; ADDED PARCELS 26 AND 26A WITH PROPERTY OWNER NAME AND DEED REFERENCES; REVISED NAME AND DEED REFERENCES FOR PARCELS 21 & 22 - SD

11/10/2015 : REVISED C/A LIMITS FROM -Y1- STA. 12+20.27 TO STA. 11+90.00 ON PARCELS 21 AND 22; UPDATED PROPERTY OWNER NAME ON PARCEL 26A - SD

8/17/99



FOR -Y1- PROFILE SEE SHT.21
FOR -YIRPB- PROFILE SEE SHT.22
SEE SHT.2D-1 FOR DITCH DETAILS

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